

TECHNOLOGY

REVIEW

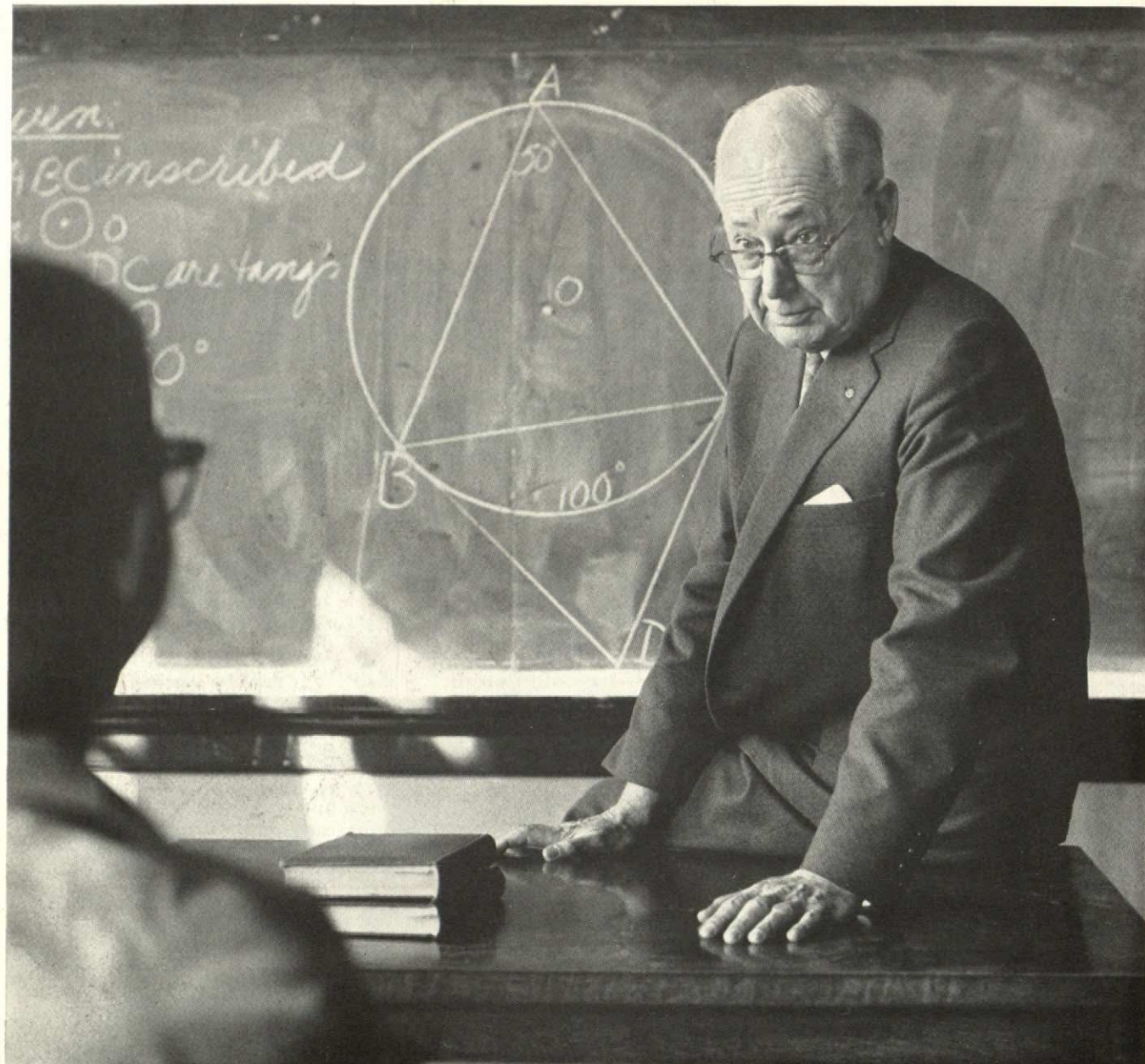
November 1957



technology review

Published by MIT

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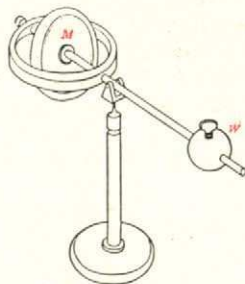


*A Teacher affects eternity...
he can never tell where his influence stops*

... wrote historian Henry Brooks Adams—a truth that today demands universal recognition. America is losing to industry many of those best able to inspire and mold youthful minds—the dedicated teachers of high school subjects prerequisite to engineering training. The value of a teacher's influence in a boy's selection of a career cannot be over-estimated,

yet all too often the rewards of teaching are more spiritual than material. Compensation fitting the importance of their work can help keep teachers in their classrooms, where they prefer to be.

America gains every time teaching is chosen as a career. It also gains whenever a teacher finds it possible to remain in the profession.



BECHTEL CORPORATION

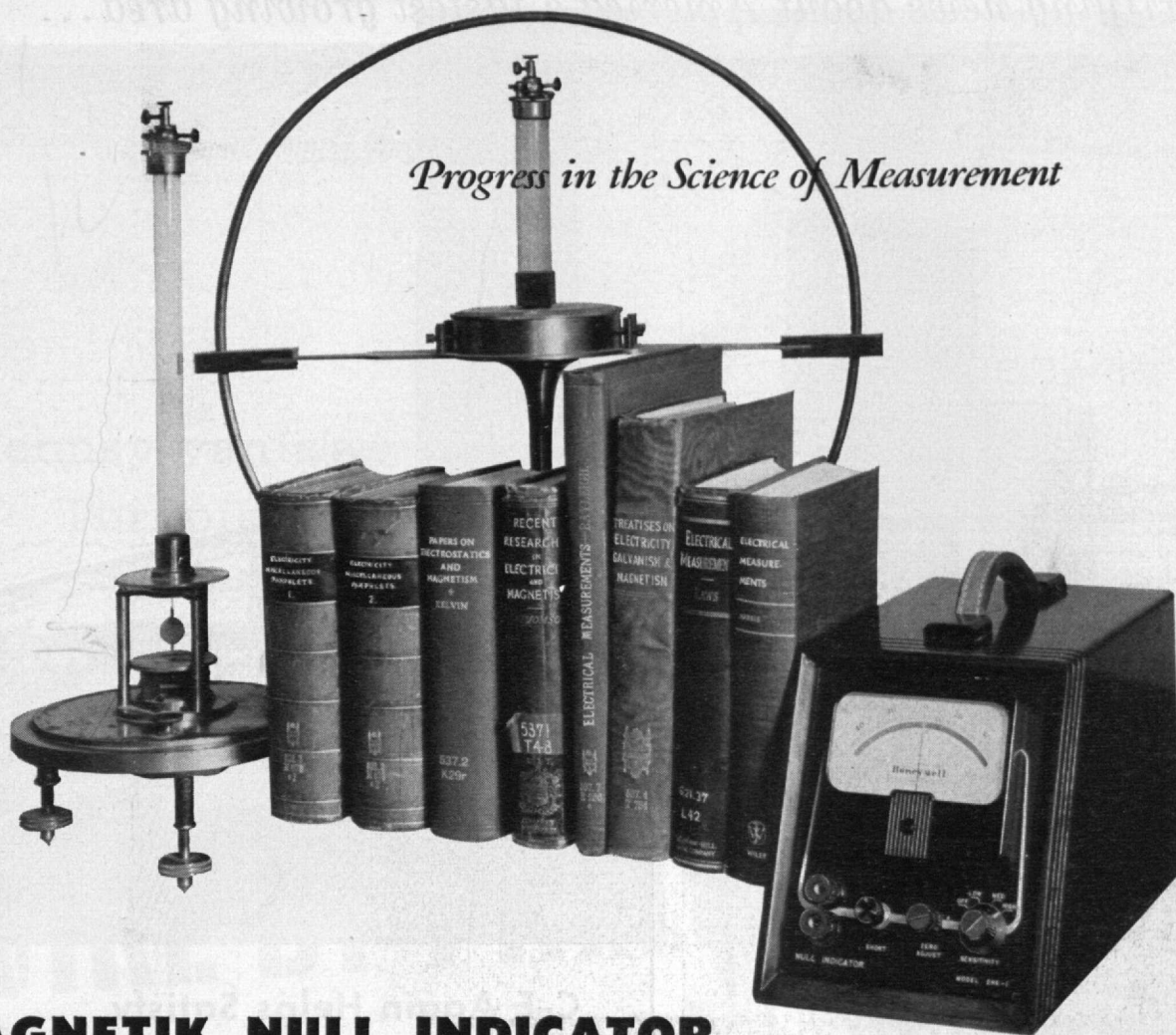
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The D-C Galvanometer was essential to the historic experiments in electricity conducted by men like Galvani, Ampere and Lord Kelvin. However, the dense stray fields of today's electrical world combined with the need for greater speed and accuracy in the laboratory and on the production line place a heavier burden on the present day galvanometer. The Honeywell Magnetik Null Indicators are today's most practical version of the D-C Galvanometer. Not only do they combine magnetic and electronic elements which make them insensitive to stray pickup; but they have 3 discreet ranges, a linear scale for deflection measurements, fast response and the ability to withstand overloads as high as 100,000 times full scale deflection. Model 2HG-1P (shown above) is available as a portable unit. Model 2HG-1R (not shown) is designed for rack mounting. Write for Bulletin NI-1, Minneapolis-Honeywell, Boston Division, Dept. 1, 1400 Soldiers Field Road, Boston 35, Mass.

MINNEAPOLIS
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PERFORMANCE CHARACTERISTICS

ISOLATED INPUT: Input terminals are isolated from chassis and circuit ground.

HIGH SENSITIVITY: 2 Microvolts per division, 0.003 Microamperes per division.

HIGH CONVERTER FREQUENCY: 2500 cps carrier, insensitive to 60 or 120 cps pickup.

LOW NOISE LEVEL: Less than 2 Microvolts equivalent input.

EXCELLENT STABILITY: Zero drift less than 1 division per hour.

INDEPENDENT OF LINE VOLTAGE: No observable drift or change in sensitivity for line variations from 105 to 125 volts.

PROPORTIONAL DEFLECTIONS: Linearity over full scale range is 5%.

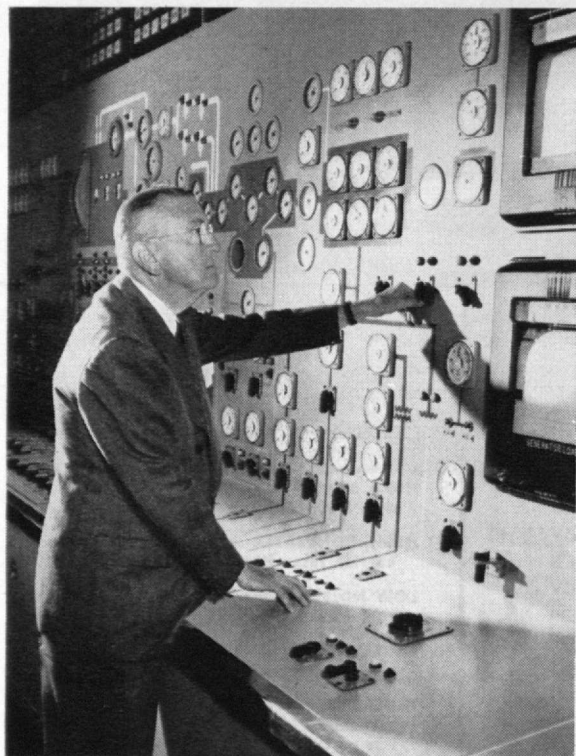
POLARITY SENSITIVE: Zero-center mirror-scale meter for polarity sensing measurements.

QUICK READING: Time constant of less than 1 second.

RUGGED: Not damaged by over-range of 45 volts d-c.

LOW MAINTENANCE: Only one vacuum tube. No moving parts except meter.

Electrifying news about America's fastest growing area...



Edward F. Barrett, LILCO's Chairman of the Board—for whom the new station was named—throws the switch coupling station to the company's transmission network.

C-E Again Helps Satisfy A Skyrocketing Demand For Power

The postwar years have seen the Long Island Lighting Company challenged to meet the electrical demands of the fastest growing area of its size in the United States. The new Edward F. Barrett Station, shown above, represents this progressive utility's recently dedicated addition to the system's generating capacity. Ten years ago, Barrett's single generating unit could have provided power for *all* of LILCO's customers. Today, however, it accounts for only one-fifth of the capacity of the Company's five generating stations. And, with an eye to the future, provisions have been made to allow expansion of the ultra-modern Barrett plant to *six times* its present capacity.

Combustion Engineering has played a major part in LILCO's phenomenal growth. In the past ten years, the utility has purchased eight large C-E boilers—seven of which are now in service. When the eighth unit goes into service next year, these boilers together will supply steam to generate nearly 900,000 kilowatts.

This record of *continued* acceptance by one of the country's outstanding utilities is further evidence not only of Combustion's leadership in steam generation but also of its ability to serve you—whether you need boilers for a giant power station or a small industrial plant.

COMBUSTION ENGINEERING

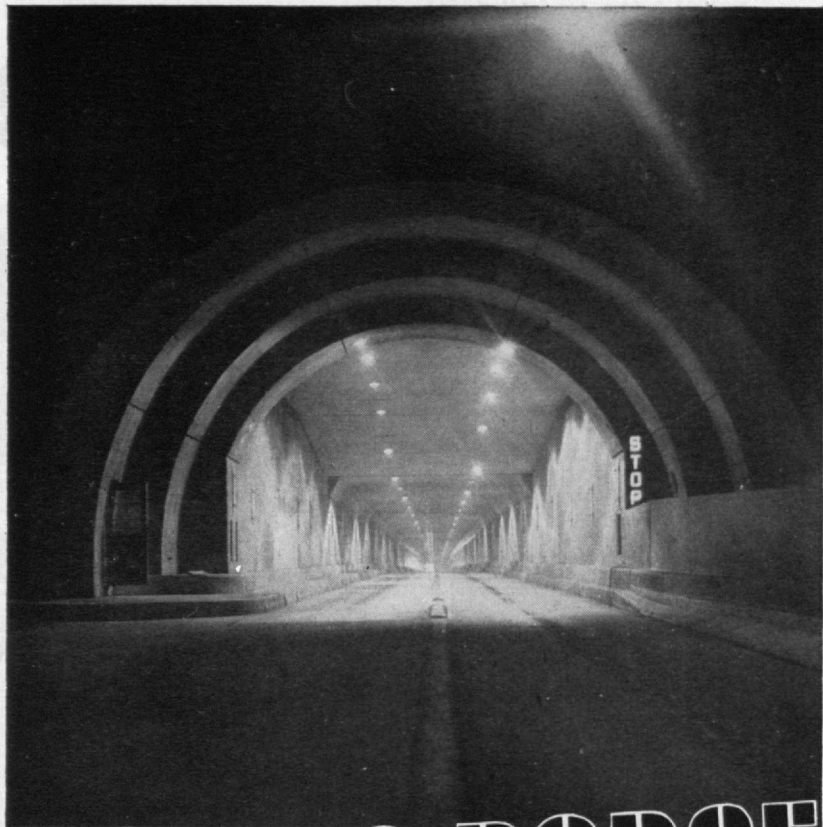
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C-100

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Model for
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When the Pennsylvania Turnpike opened in 1940, it was the first modern highway of its kind in the East. Since then, it has earned a reputation as a model super-highway whose design combines a free flow of traffic with a low accident rate.

One of the requirements for the Turnpike tunnels, interchanges, approaches and portal buildings was an electrical system of the highest quality. That's why Phelps Dodge building wire and rubber insulated, neoprene-jacketed cable was installed. For 17 years, this wire and cable has been giving the Turnpike dependable, trouble-free service.

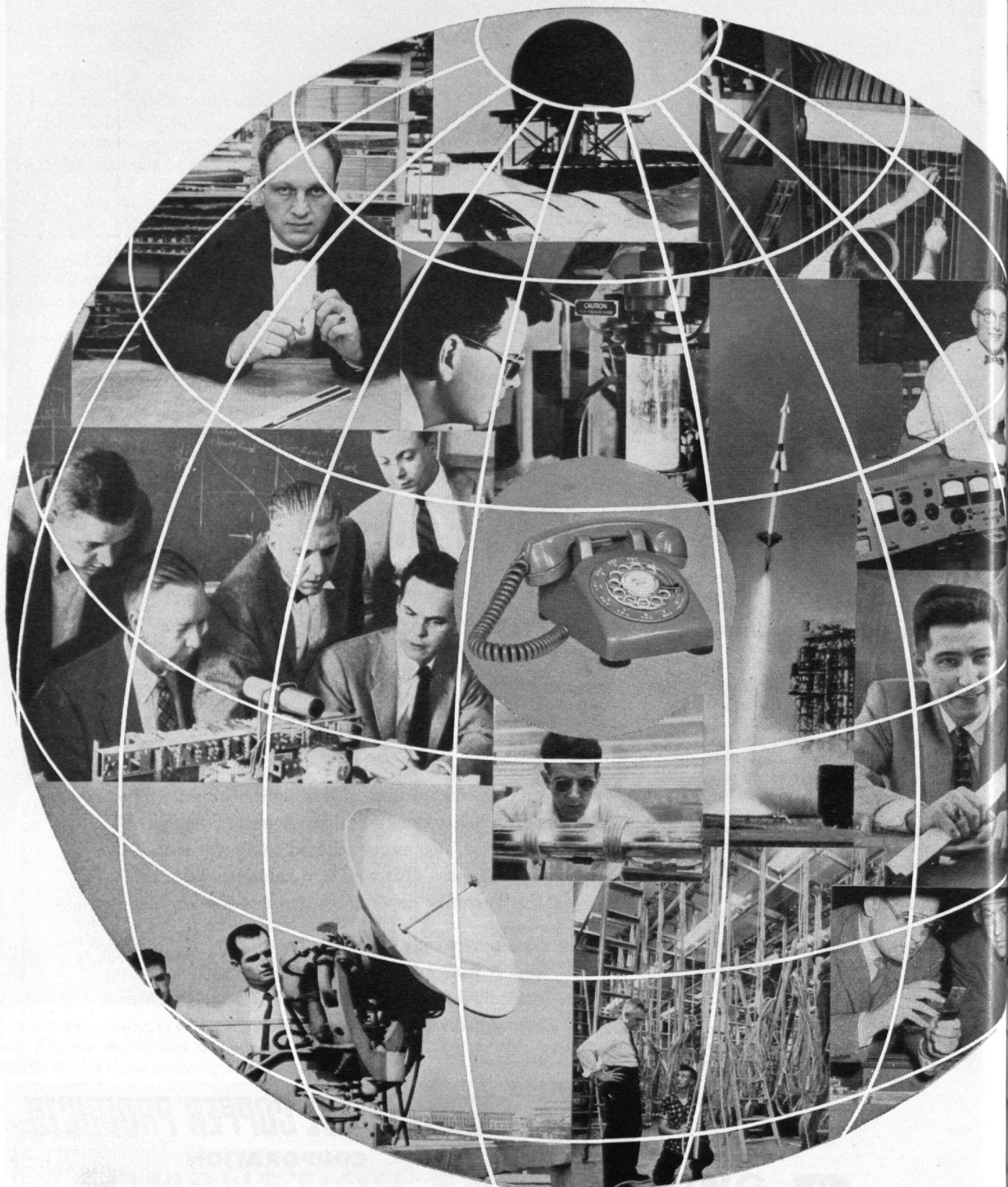
On every wiring job where top-quality performance, expert workmanship and experienced "know-how" are called for, *it pays to rely on Phelps Dodge and your Phelps Dodge distributor!*



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engineer's



● Western Electric has major manufacturing plants located at Chicago and Decatur, Ill., Kearny, N. J., Baltimore, Md., Indianapolis, Ind., Allentown, Pa., Winston-Salem, N. C., Buffalo, N. Y., North Andover, Mass. Distribution Centers in 30 cities. Installation headquarters in 16 cities. General headquarters: 195 Broadway, New York, N. Y. Also Teletype Corporation, Chicago 14, Illinois.

THE TECHNOLOGY REVIEW

world at Western Electric

AS THE world's largest manufacturer of communications equipment our continued progress depends greatly on our engineers. They have a key role in the production of some 50,000 types of apparatus and component parts that Western Electric makes in a given year.

● To our engineers falls the monumental task of developing manufacturing operations and of planning the installation of telephone central office equipment across the nation. They devise the new machines, tools and methods needed to do our job. They also shoulder the major responsibilities in carrying out the defense contracts the government has asked us to take over — major projects like the Nike guided missile system and SAGE, the continental defense system.

● In the course of their technical work, engineers participate in such broad managerial functions as production, merchandising, installation, and many others. What's more, we have a record of promotions from within. It's not surprising, therefore, that fifty-five percent of the college graduates in our upper levels of management have engineering degrees.

● Naturally we do everything possible to encourage and speed the professional development of our engineers. Just recently, for example, we inaugurated a full-time off-the-job Graduate Engineering Training Program at special training centers, a program with few parallels in American industry.

● The new engineer moves into the first phase of this program, **Introduction to Western Electric Engineering**, four to six months after he joins us and devotes nine weeks of study to such technical subjects as communications systems, military electronic systems, product design principles. He takes part in the second phase, **General Development**, after the first year on the job. In this phase he devotes nine weeks to courses in human relations, semantics, engineering statistics, electronics, measurements and instrumentation, systems circuit analysis. The third phase, **Advanced Development** (4 weeks per year), is available to selected engineers and is geared to the individual to help develop his creative engineering abilities; goes deeply into such subjects as magnetics, computer applications, electronic switching, radar fundamentals, feedback control systems and technical paper writing.

● Besides this company-wide program, a number of our divisions offer individual engineering courses in their own specialties. We also sponsor a Tuition Refund Plan for out-of-hours study at nearby colleges. Open to all employees, this plan helps our engineers study for advanced degrees at Company expense.

● Truly there's an engineer's world here at Western Electric . . . one in which engineers in every field of specialization can expect to grow.

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Machine and tool requirements—M.E., E.E.; Space requirements—M.E., I.E.; Test facility requirements—E.E.; Personnel requirements—I.E.; Electric power, light and heat requirements—E.E.; Raw material requirements—Chem. E., Met. E., Phy. Sc.; Procedures and processes—M.E., I.E.; Time and Motion Studies—I.E.; Investigation of manufacturing difficulties—M.E.; Quality control—M.E., E.E.

Planning telephone central offices:

Equipment requirements — E.E.; Power and cable requirements—E.E.

Development and design:

New machines and tools—M.E., E.E.; Material handling methods—M.E., I.E.; New equipment and processes—M.E., E.E.; Repair shop methods—M.E.; Testing facilities—E.E.; Testing methods—E.E.; Job evaluation studies—I.E.; Wage incentive studies—I.E.; Production control studies—I.E.; Improved chemical processes—Chem. E., Met. E., Phy. Sc.; New application for metals and alloys—Chem. E., Met. E., Phy. Sc.; Raw material test procedures—Chem. E., Met. E., Phy. Sc.; Service to military on electronic devices—E.E.

For further information write: Engineering Personnel, Room 1034, 195 Broadway, New York 7, N. Y.

Western Electric



MANUFACTURING AND SUPPLY

UNIT OF THE BELL SYSTEM

FIRST SNARK SQUADRON ACTIVATED

Snark Guided Missile Becomes Operational

HAWTHORNE, CALIF.—The United States Air Force has announced that its first Northrop Snark SM-62 intercontinental guided missile squadron will be activated late this year. The Snark will be the first such missile to come into operational use.



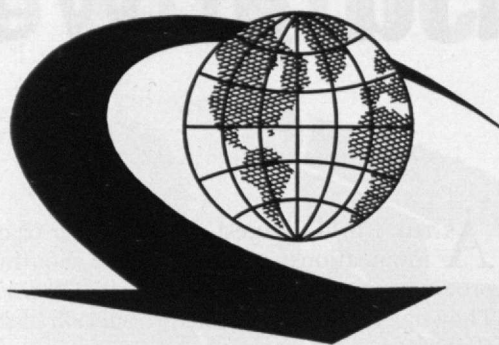
The squadron, to be assigned to the Strategic Air Command, will be equipped with the high-altitude, jet-propelled Snark missile capable of delivering a nuclear warhead.

The exact site for the new missile unit was not disclosed but SAC officials emphasized that missile units will be so positioned as to reduce problems of noise and to insure that missiles, if ever fired, will not pass over heavily populated regions.

No missiles will be launched from operational sites except in case of attack. For training purposes missile crews will practice actual firing at an established range such as Patrick Air Force Base, Florida.

The Snark missile squadron will be manned by some 500 officers and men. Personnel are now undergoing training in the operation and maintenance of the Snark at Northrop.

The engineering division at Northrop continues in its development work on the Snark while they are in production. Other advanced projects in manned and pilotless flight are also in various stages of development at Northrop's new multi-million dollar engineering and science center in Hawthorne... all of them vital to the defense of America and other countries of the free world.



missile engineers

As space becomes the missile engineer's province the demand for highly competent talent is ever present. Each development uncovers other areas for advanced study.

Beneath the imposing skyline at Northrop, engineers in the new multi-million dollar Engineering and Science Center are tackling today the problems of tomorrow's flights into space.

Scientists and engineers at Northrop have many accomplishments to their credit, including the USAF-Northrop SM-62 Snark intercontinental guided missile, first such weapon system to become operational with the Strategic Air Command. Research continues on preliminary and advanced projects involving missile guidance and controls, propulsion, flight test engineering, and similar areas of prime importance.

Northrop's 18 years of experience in pilotless flight is seldom matched by other manufacturers in the aircraft or missile fields. This reputation is a principal reason why experienced engineers and scientists have joined the Northrop Engineering Division. As work progresses on the USAF Snark and other vital missile projects career opportunities become available for qualified missile engineers.



NORTHROP

Northrop Division of Northrop Aircraft, Inc.

Engineering Industrial Relations, Dept. 4600-A7
1041 East Broadway, Hawthorne, California

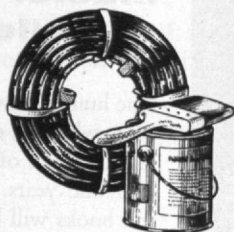
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Each Fellowship provides a cash award of not less than \$2000 . . . a minimum salary of \$2500 for summer or part-time work . . . up to \$1500 for tuition, books, and research expenses . . . and moving and transportation costs. Eligibility is based on the completion of one year of graduate work in physics or engineering, and qualification for graduate standing at California Institute of Technology, University of California (Berkeley), or Stanford University. Application closing date: January 15, 1958.

master of science fellowships

One hundred awards are open to participants who will complete courses leading to the Master of Science degree within 2 academic years. Tuition, admission fee, and books will be provided. During the summer they will have the opportunity to work with experienced Hughes scientists and engineers, while receiving salaries based upon their ability and technical experience.

Applicant must receive his B.S. degree during the coming year in Aeronautical Engineering, Electrical Engineering, Mechanical Engineering, or Physics. Participant may request his graduate school from the following six institutions: University of Southern California, UCLA, Stanford University, University of Arizona, Purdue University, or West Virginia University.

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Office of Advanced Studies*

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RESEARCH AND DEVELOPMENT
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Answering these questions may help you decide whether you should consider a change.

1. Is your financial advancement in line with your years of experience? YES ☐ NO ☐
2. Do you have sufficient freedom in your work? Can you move on your own — make independent decisions? YES ☐ NO ☐
3. Does your job stimulate you to make full use of your education and abilities? Is it providing the training necessary for future growth? YES ☐ NO ☐
4. Are you receiving adequate security? Is your future protected by group insurance and retirement benefits? YES ☐ NO ☐
5. Is there social and professional recognition attached to your present field? YES ☐ NO ☐
6. Do you have the satisfying knowledge that your work is important — that it contributes to the welfare of others? YES ☐ NO ☐

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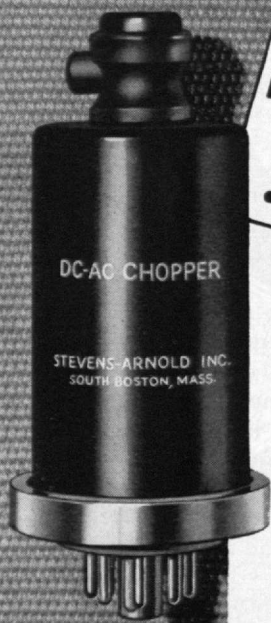
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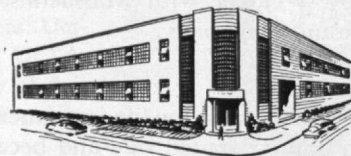
THE TABULAR VIEW

Scientist Compton. — The tribute of one scientist to another is given (page 27) to the late Karl Taylor Compton by GEORGE R. HARRISON, Dean of the School of Science. Dean Harrison's address was delivered at the dedication of the new Karl Taylor Compton Laboratories on June 10, as part of this year's Alumni Day program, but was held for this issue which contains a description of the new laboratories of physical science. Born in San Diego on Bastille Day during the Spanish-American War, Dean Harrison received the A.B., A.M., and Ph.D. degrees in 1919, 1920, and 1922, respectively, from Stanford University. Even before both men came to Technology in 1930, Dr. Harrison was closely associated with former President Compton. As reported in Dean Harrison's article, both worked together in planning the Eastman Laboratories at M.I.T. and on many scientific and administrative problems thereafter. Dean Harrison is outstandingly suited to the task of paying tribute to Dr. Compton, not only because of the many close ties between the two men who worked together for more than a quarter of a century, but also because Dean Harrison is collecting material and writing a biography of Karl Taylor Compton.

New Facilities. — This fall, superb new facilities for teaching and research in the physical sciences are being used for the first time at the Institute. These include the new Karl Taylor Compton Laboratories for studies in the physical sciences and the nuclear reactor now nearing completion. The Compton Laboratories building houses the headquarters of the Research Laboratory of Electronics, the Laboratory for Nuclear Science, and a brand new Computation Center. The description of these new facilities (page 29) has been prepared by The Review's Editor, with the assistance of the M.I.T. Photographic Service, and members of the office of the Director of Physical Plant, and of the Institute's Faculty.

Presidential Report. — Always stimulating and instructive, this year's annual report of PRESIDENT JAMES R. KILLIAN, JR., '26, to the members of the M.I.T. Corpora-

(Concluded on page 12)



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David Siegel, Architect

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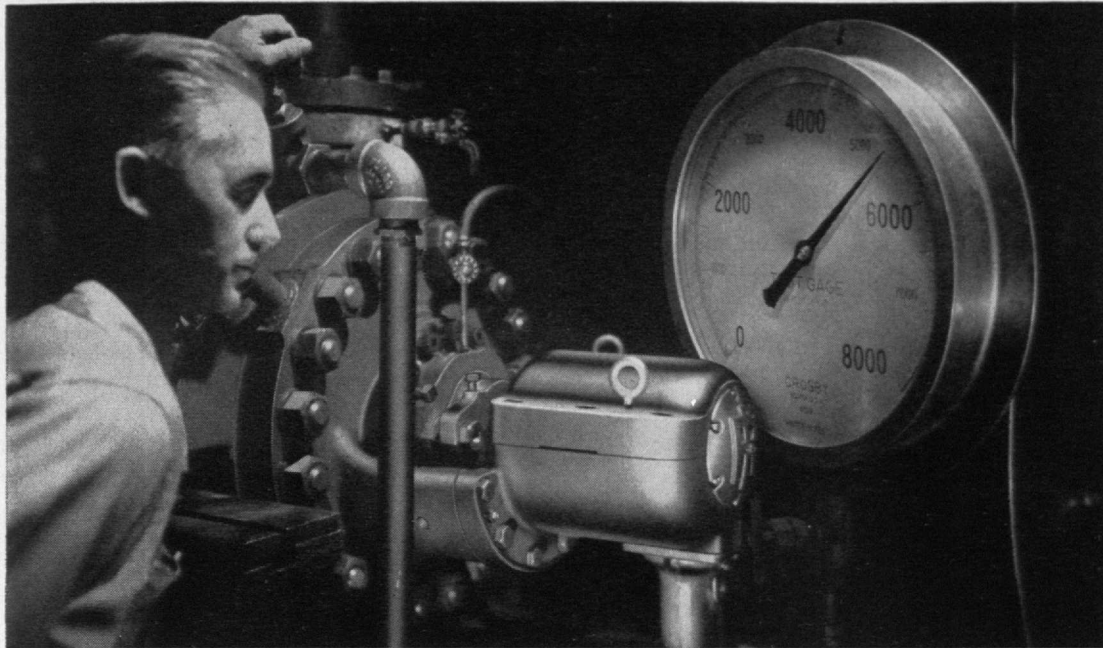
Our organization was started in 1917 when business required fast construction for World War I. Our speedy performance and reasonable cost won immediate recognition.

Speed with Economy has been our forte ever since. As a result, over 70% of our business comes from companies we have previously served.

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Alfred T. Glassett, '20, President

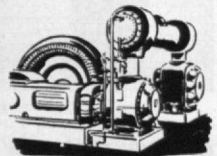
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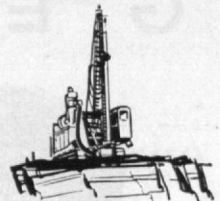
engaged in research, design, manufacture or sales of I-R pumps, you can be sure of three things — prestige, permanence and progress. The Company is a leader in its field, and so are the men you will work with. Here, long-range security and opportunities for advancement are second to none. For further information on leadership careers at Ingersoll-Rand, contact your Placement Office, or write to Ingersoll-Rand, 11 Broadway, New York 4, New York.

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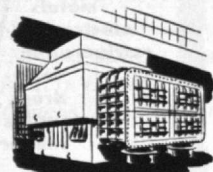
*Among the many graduates of Massachusetts Institute of Technology at Ingersoll-Rand are:
L. C. Hopton, 1926, First Vice-President and Secretary; P. J. Bentley, 1925, Vice-President.*



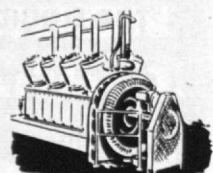
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THE TABULAR VIEW (Concluded from page 10)

tion (page 39), provides a keen analysis of many problems now requiring solution in higher education in the United States. It compares the year's progress at M.I.T. with recent recommendations of President Eisenhower's Committee on Education Beyond the High School, and points the direction in which future M.I.T. effort might best be headed. In Dr. Killian's view, a first-class faculty is the greatest need of today's colleges and universities. But the teaching profession must safeguard its future as well. One of the most effective ways of achieving this end is by making faculty salaries comparable with those paid in industry. Another is to pay particular attention to the training of today's students, and to encourage more of the abler ones to become tomorrow's teachers and professors. Dr. Killian has had a brilliant career and, especially since becoming President of M.I.T., has been actively engaged as Presidential Adviser on numerous occasions. He has served as member or chairman of important governmental committees to recommend educational and scientific policies at the national level, and is a respected and much sought-after, public-spirited educator and administrator.

Alumni Conference.—Another Technology Review report, this time prepared by WALTER L. MILNE, Assistant to the Director of Public Relations, reports the Second Alumni Officers' Conference held on September 6 and 7 at the Institute. Mr. Milne received the A.B. and A.M. degrees from Brown University in 1943 and 1947, respectively, and, after teaching at Worcester Polytechnic Institute for several years, joined the M.I.T. staff in 1951.

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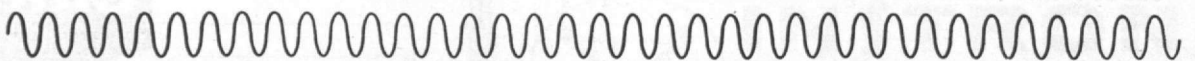


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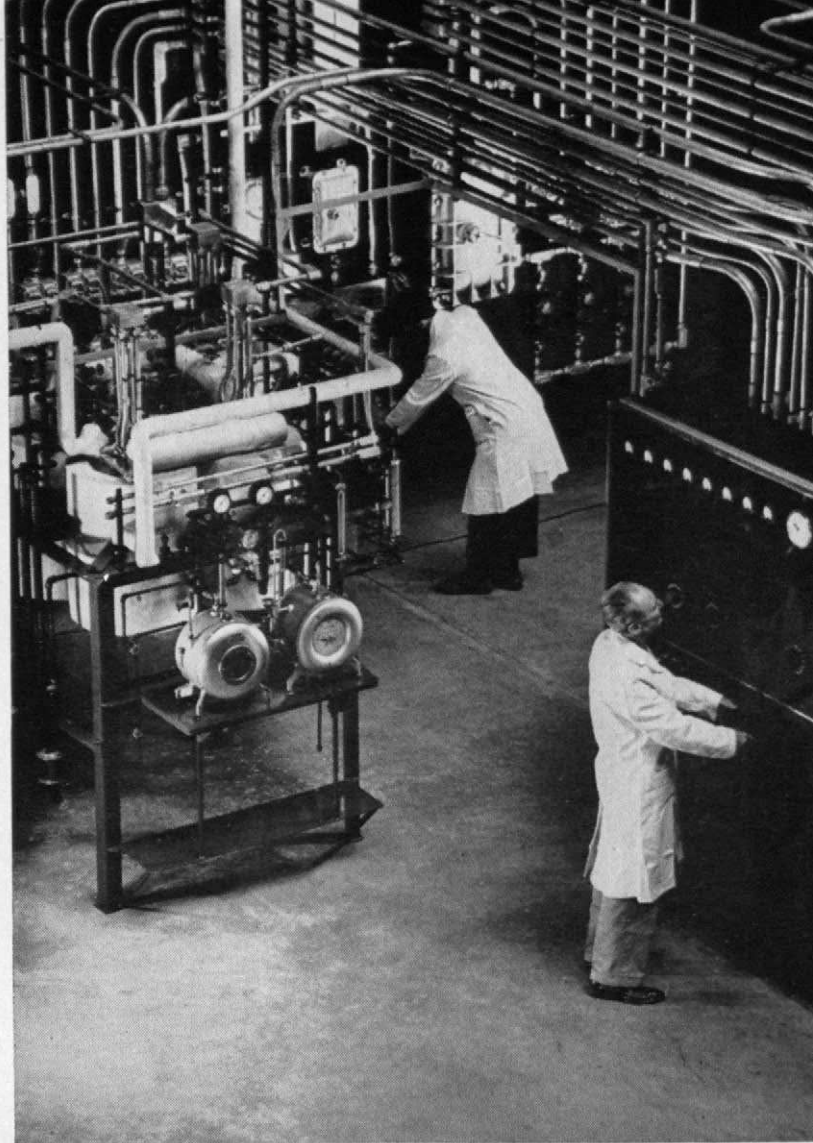
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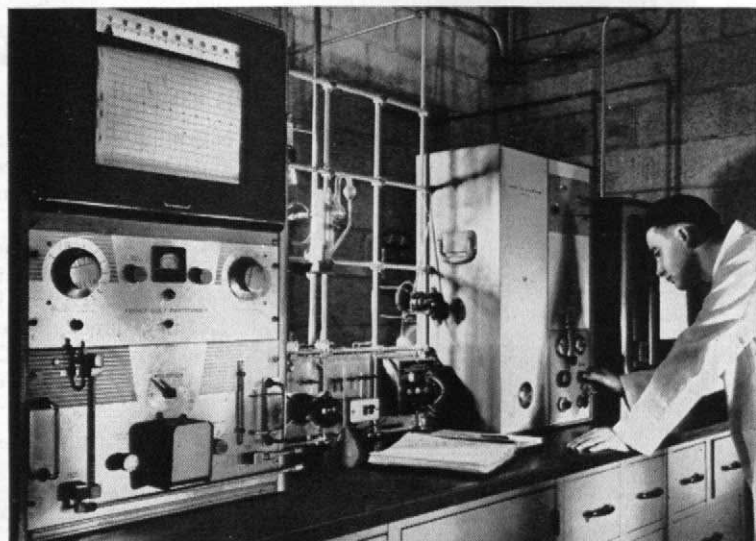
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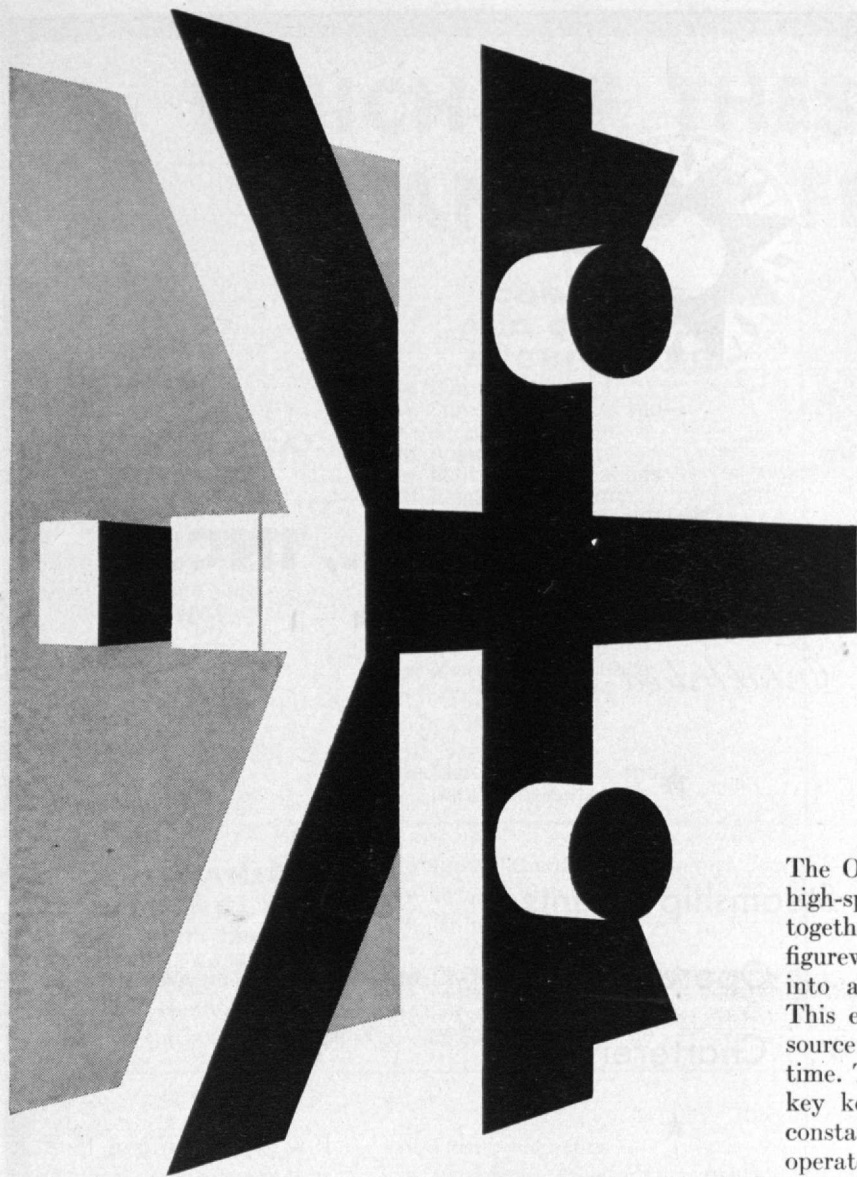
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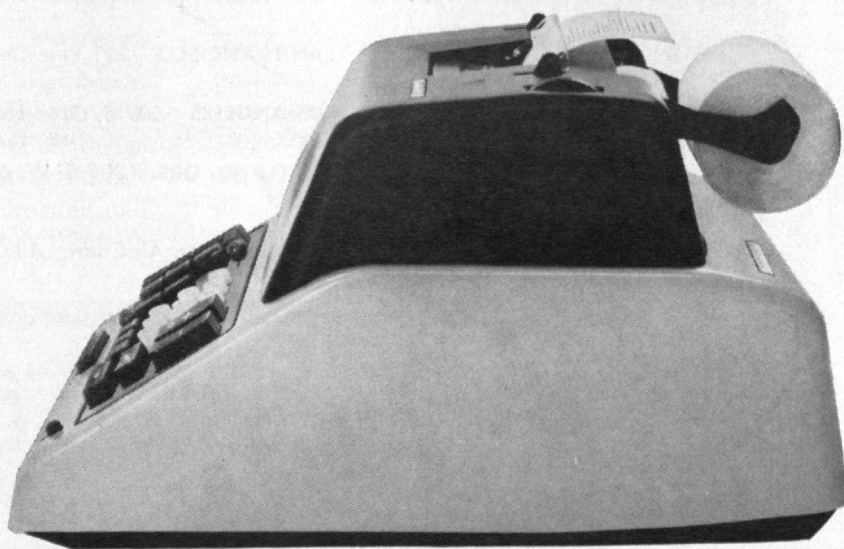
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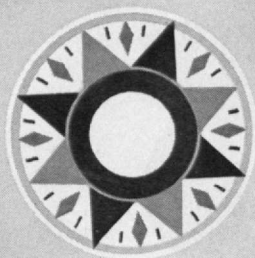
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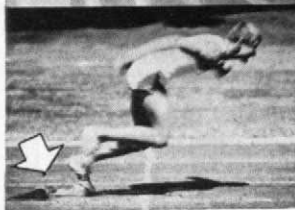
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Tug boat in harbor photographed for The Review by Raymond E. Hanson of Boston.



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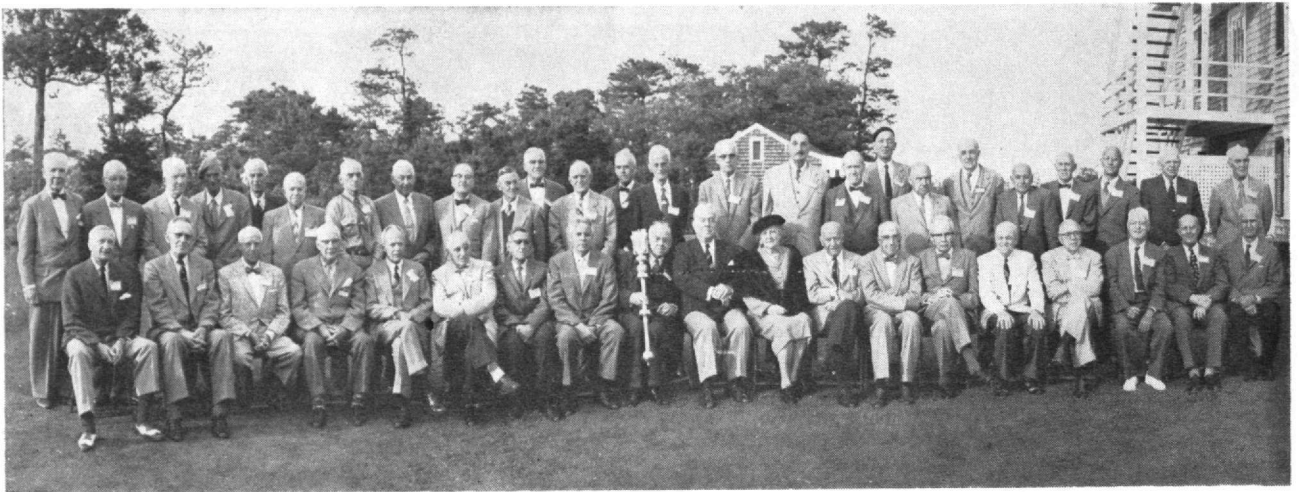
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Donner Scholarships

■ Six prize scholarships totaling more than \$13,000 have been awarded to six young high school graduates who entered the Institute this fall to study aeronautical engineering, it was announced last summer.

The prize scholarships have been established by Mrs. John Jay Ide of New York to honor the memory of her father, the late William H. Donner. This is the second year these scholarships, which are worth \$2,200 each, have been awarded.

Given only to high school graduates who have shown promise of future achievement in aeronautics, the Donner scholarships are restricted to students planning to study in M.I.T.'s Course in Aeronautical Engineering.

Recipients for 1957-1958 are: David W. Baker of Great Falls, Mont.; Joseph T. Davis of Richmond, Va.; Elnathan Haskell of Columbia, S.C.; Peter F. Lindquist of Glen Ellyn, Ill.; Walter J. Wiegand, Jr., of New Britain, Conn.; and Byron H. Willis of Winslow, Ariz.

William H. Donner, for whom the awards are named, was noted for his many philanthropies in the fields of education and medicine. A steel executive, Mr. Donner also founded the towns of Monessen and Donora, Pa.

In his business career, Mr. Donner was successively manager of Donner Milling Company; manager and treasurer of National Tinplate Company, Anderson, Ind.; president of Union Steel Company, Pittsburgh, Pa.; president of Cambria Steel Company, Pittsburgh; chairman of the Board of Pennsylvania Steel Company; and president of Donner Steel Company, Buffalo, N.Y. At one time he was receiver of the Westinghouse Machine Company of Pittsburgh.

Mrs. Ide, who has established the scholarships, is the wife of John Jay Ide, who, for many years, was the European representative of the National Advisory Committee for Aeronautics at the American Embassy at Paris, France. Mrs. Ide's gift was inspired by the shortage of qualified scientists.

Individuals Noteworthy

■ Recent honors have been presented to Alumni and members of the Institute's Faculty as listed:

To *Alfred P. Sloan, Jr.*, '95, an honorary doctorate of laws, by Columbia University . . . to *Arthur W. Carpenter*, '13, the 1957 Charles Goodyear Medal, the highest honor in rubber chemistry.

To *Professor Arthur L. Townsend*, '13, the 1957 James H. McGraw Award in technical institute education, by the American Society for Engineering Education . . . to *Edward P. Warner*, '17, the first honorary membership of the International Society of Aviation Writers.

To *Professor Arthur C. Hardy*, '18, the Frederic Ives Medal for 1957 by the Optical Society of America . . . to *Professor Harold C. Weber*, '18, the Army Chemical Corps' Certificate of Achievement.

To *Richard A. Wilkins*, '18, chosen as the first non-resident of the British Isles to be elected to its limited group of 12 Fellows, by the Institute of Metals . . . to *Robert H. Kean*, '23, the 1957 Distinguished

On the Horizon

November 18, 1957 — M.I.T. Club of New York will hold its annual Stein Presentation Dinner at the Hotel Biltmore in honor of C. George Dandrow, '22. James R. Killian, Jr., '26, President, will be the principal speaker. (Reservations may be obtained by writing to: M.I.T. Club of New York, Biltmore Hotel, New York City.)

December 7, 1957 — 11th M.I.T. Alumni Regional Conference, Pittsburgh, Pa. (For further information, consult Thomas I. Stephenson, 3d, '45, Aluminum Company of America, Pittsburgh 19, Pa.)

March 1, 1958 — 12th M.I.T. Alumni Regional Conference, Washington, D.C. (For further information, consult T. K. Meloy, '17, 3000 Arlington Boulevard, Falls Church, Va.)

March 13-15, 1958 — 10th Annual Fiesta, M.I.T. Club of Mexico, Mexico City, D.F. (For reservations, consult Clarence M. Cornish, '24, Margaritas 139, Villa Obregon, Mexico 20, D.F., Mexico.)

June 16, 1958 — 24th Alumni Day, 1958, M.I.T. Campus in Cambridge.

guished Service Award for contributions to chemistry, by the Virginia Section of the American Chemical Society.

To *J. A. Stratton*, '23, *Chancellor*, an honorary doctorate of laws, by Northeastern University, and an honorary doctorate of science by St. Francis Xavier University, Antigonish, Nova Scotia; also recipient of a Certificate of Award by the Secretary of the Navy for distinguished public service to the U. S. Navy . . . to *George W. Rigby*, '28, an honorary doctorate of science, by Willamette University.

To *R. B. Woodward*, '36, an honorary doctorate of science, by Harvard University . . . to *David V. Ragone*, '51, the 1957 award as an "outstanding engineer," by the Engineering Society of Detroit.

To *Professor Samuel C. Collins*, an honorary doctorate of science, by the University of North Carolina . . . to *Francis O. Schmitt*, Institute Professor and Professor of Biology, an honorary doctorate of science, by the University of Chicago.

■ Among the Alumni to whom birthday congratulations are appropriate during this month are four due to celebrate their 85th anniversaries, and seven their 80th, as listed below with their dates of birth:

November, 1872 — *Frederick L. Richards*, '95, on the 10th; *John A. McIlvaine*, '96, on the 17th; *Abram Garfield*, '96, on the 21st; and *Florence A. Ewing*, '97, on the 24th;

November, 1877 — *James C. Heckman*, '00, on the 4th; *Harold W. Jones*, '98, and *George H. Mead*, '00, on the 5th; *Everett F. Currier*, '98, on the 8th; *Edwin Kuttroff*, '98, and *George B. Moody*, '00, on the 10th; and *Lewis J. Seidensticker*, '98, on the 15th.

With these 11, the rolls of the Alumni Association will include a total of 57 living nonagenarians and 591 octogenarians.

■ The Review quoted from the address made September 26, 1932, by President Karl T. Compton to the entering Class of 1936. Emphasizing the vital importance of fundamental integrity in politics, business, and professional life — no less important today than 25 years ago — President Compton said:

"During the past two years," said Dr. Compton, "everyone has realized the need of economy. Industries and individuals have been forced to practice it in order to survive. Similarly, our government must practice it in order to survive, for the state is also subject to the same economic laws. Political candidates and organizations have preached and advertised economy in their platforms. Non-partisan organizations have pleaded and worked for it. The press has strongly advocated it. The public wants it.

"Yet, despite honest effort and political ballyhoo, what do we see? We see in many cases a pretense at accomplishment. I am informed, for example, that in one of the great municipalities in this land, the budget requests of the departments show economies totalling only a fraction of one per cent — and that is only in supplies and not in payroll — and that there has not even been any reduction in such departments as garbage disposal, whose amount of work has shown marked reduction during the depression.

"The situation I point to as illustrating political dishonesty is not the type which is punishable by law, but which is failure to perform according to the principles of high moral integrity and social service. Such acts by those in power, whether due to selfishness or cowardice, seriously undermine confidence in our government and are most dangerous threats to its stability.

"When this depression came upon us and sales fell off, many companies tried to beat the game by putting on the market a cheap line of goods made to imitate goods of high quality and sold at the pretense of a reduction of price. My economist friends tell me that business now realizes that this has been a boomerang and a mistake. The point is that in business, as well as in politics, a high ideal of integrity is a great asset to society. We should practice it ourselves and rally to the support of others who do likewise.

"In professional work there are an infinite variety of tests of integrity, ranging all the way from temptation to dishonesty in specifications, or taking advantage of a client while advising him, to the results of an almost unconscious lack of precaution."

■ Congratulations were being extended to *Rear Admiral Emory S. Land*, '07, the new chief of the Navy's Bureau of Construction and Repair; . . . to *Kenneth T. Bainbridge*, '25, for having succeeded in measuring to an extraordinary degree of accuracy the weight of the recently discovered hydrogen 2, the heavy hydrogen atom; . . . and to *William B. Lodge*, '30, for his invention of an ultra short-wave transmitter which could send television images and sound simultaneously on the same wave lengths. His invention was termed "double-modulation."

■ This year the M.I.T. Alumni Fund received the largest total of gifts in its entire history. The \$640,000 given to the M.I.T. Fund this year surpassed by nearly \$70,000 the previous Fund high of \$574,000 set in 1956. The 12,000 contributors also represented a new high in individual participation.

It is the third year in a row that receipts in excess of \$500,000 have been reported by the M.I.T. Fund, and for the second consecutive year part of the Fund will be used for student scholarships.

The first announced use of this year's Fund money has been the awarding of Alumni Fund National Scholarships to 23 promising young high school graduates to enter M.I.T. this fall. The recipients of the four-year scholarships are:

Alfred T. Anderson, 3d of St. Petersburg, Fla., Michael L. Cooke of Glen Ellyn, Ill., Dorsey C. Dunn of Weatherford, Okla., Thomas L. Geers of St. Louis, Mo., George W. Gladfelter of Tucson, Ariz., John Hamilton of Oklahoma City, Okla.

Robert L. Johnsen, Jr. of La Jolla, Calif., G. Hunter Jones of Danville, Va., Anthony J. Joy, Jr. of Youngstown, Ohio, Raymond B. Landis of Sea Island, Ga., Robert B. McLean of Kansas City, Kansas, Claude R. Phipps, Jr. of Ponca City, Okla.

Thomas A. Schuck of New Hartford, Iowa, William M. Shaw of Amherst, Mass., Thomas O. Sherman of Garden City, N.Y., Uldi Shvern of Philadelphia, Pa., Nelson W. Stefany of Maplewood, N.J., Michael E. Stone of Minneapolis, Minn.

Alan J. Stratton of Helena, Mont., Craig S. Tedmon, Jr. of Seattle, Wash., Paul M. Tedrow of Storrs, Conn., David S. Wiley of Troy, Ohio, Joseph P. Wright of Huntington, W. Va.

Decade of Co-operation

■ A unique international adventure in educational co-operation celebrated its 10th anniversary on August 30 with the closing exercises of the M.I.T. Summer School of Geology at Antigonish, Nova Scotia. Sponsored jointly by the M.I.T. Department of Geology and Geophysics and the Province of Nova Scotia, over the past decade this unusual school has helped educate some 350 young Canadian and U.S. geologists who have added new knowledge of the geology and geological resources of Nova Scotia.

Professors from M.I.T. and from Nova Scotia universities instruct a group of 25 to 30 students each summer in field training in geology and associated sciences at the Nova Scotia Center for Geological Sciences at Crystal Cliffs. The project, which is administered by M.I.T., also carries on a program of student thesis work and staff research.

Largely through the Department of Mines and to some extent through the Nova Scotia Research Foundation, the Province of Nova Scotia provides lodging, food, and transportation for the students.

Students from four Nova Scotia schools—Acadia University, Dalhousie University, Nova Scotia Technical College, and St. Francis Xavier University—have an equal opportunity with M.I.T. students to

(Concluded on page 78)

Karl Taylor Compton — the Scientist

Tribute to a former scientist, educator, and college president
on the occasion of the dedication of new laboratories of science

by GEORGE R. HARRISON

LIKE to think of the dedication of these laboratories today as the further fulfillment of one of Karl Compton's fondest dreams, not because the laboratories are being named after him, but because this is the kind of place in which he would have chosen, if he could, to spend his working life. Giving up personal participation in scientific research at the age of 43 was a personal sacrifice that he was induced to make only because of his ever-active sense of duty.

There have been many discussions at M.I.T. as to how the name of Karl Taylor Compton could best be perpetuated in some tangible memorial. Suggestions have been made that dormitories be labeled "Compton House," or that we have a "Compton Auditorium," for there has been a natural desire to keep constantly before future generations the name of this great Institute personality. But no suggestion has been so appropriate as that now being carried out, for nowhere can the spirit of Karl Compton be more constantly and vitally felt than in a laboratory of science.

The official title of this building is the "Karl Taylor Compton Laboratories," but I predict that it will be called that only on the official record and on the labeling plaque. Soon, and we are hearing this already, it will be called the "Compton Labs," and students and Faculty alike will be talking about working in Compton, just as they now work in Eastman, or as they went over to Rogers in the old days, or over to Jefferson at Harvard, or Palmer at Princeton. This affectionate terminology is what marks the transition of an edifice from a laboratory building to a laboratory, from a house to a home of science. We owe it to Karl Compton's memory to make this a great home of science, and you may rest assured that this will be done.

There are two reasons why I presume to speak so positively regarding Karl Compton's reactions to this building. First, I have lately been gathering materials for his biography and have been growing up vicariously with him, sensing from letters, photographs, and records of his experiences, his joy and anticipation in a budding scientific career. Second, I have actually experienced this dedication of a science laboratory before, with him as the leader and most active participant.

Soon after the Comptons arrived at M.I.T. in 1930 I had the privilege of working with President Compton in the design of the George Eastman Research Laboratories of Physics and Chemistry which have in the intervening quarter of a century become so important to the functioning of the Institute. In

those days, of course, the Institute was far smaller than it is now, and the then President was much less occupied by external affairs than he became later. Many were the long meetings with the architects that Dr. Compton, Professor John C. Slater as Head of the Physics Department, Professor Frederick G. Keyes as Head of the Chemistry Department, and I as Director of the Laboratory of Experimental Physics, spent in going over the blueprints. How much Karl Compton enjoyed this is testified by two papers he wrote for scientific journals on the layout of the new laboratories. You will find in *Physics* for April, 1932, an article entitled "New Spectroscopy Laboratory of the Massachusetts Institute of Technology" by Karl T. Compton. This laboratory, a small 13-room building in the court behind Eastman, resulted from an interchange of letters between Dr. Compton and myself as to where in the projected new George Eastman Laboratories a room could be provided that would be 40 feet on a side, without any obstructing columns, for the installation of special apparatus.

Again, in *Science* for May 6, 1932, we find an article by Karl Compton entitled "The George Eastman Research Laboratories for Physics and Chemistry." He begins this paper by saying, "These new research laboratories are built in the belief that these fundamental sciences are destined to play an even more important role in our civilization than they have played in the past. For not only do they underlie all branches of engineering, but they are necessary to that sympathetic understanding and appreciation of modern life which is so important a part of present-day culture." The features he mentions as being especially built into the new laboratory were rigidity and freedom from vibration, flexibility and completeness of electrical service, flexibility of internal arrangements, unusually adequate shop, lecture room, and departmental library facilities, and provision for encouraging cultural and artistic and social contacts amongst staff and students. He quotes from the plaque in the entrance lobby which contains a quotation from Virgil, translating it as "Happy is he who has been able to learn the causes of things, and has cast beneath his feet all fears of inexorable fate and the roar of greedy Acheron." One nostalgic note that I can bring from those departed days is that that building, with its volume of 1,367,000 cubic feet, cost \$1,146,000 or \$0.83 per cubic foot. If you do not know offhand the comparative figures for today, rejoice and be exceedingly glad.

In working on Dr. Compton's biography, I sometimes am worried about what to call him in a par-

ticular context. Much of the time, of course, he must be President Compton, while on family outings he is obviously Karl. Today I have no such difficulty. To the physicists of America, from the time soon after the beginning of his scientific years at the Palmer Physical Laboratories in Princeton, he was known as K.T. However, this use of initials did not arise in the manner customary when underlings want to be slightly informal with the boss, but don't want to be fired for overfamiliarity. It started out to distinguish Karl from A.H., his brother Arthur Holly Compton, also a physicist, but there came to be much more to it than this. During the twenties, K.T. developed for himself a special place in the hearts of all physicists, and there was an affection in this diminutive which went far beyond the combination of mere familiarity and respect.

Most of you have probably heard what happened over in Room 10-250 when Professor Scherer of Zurich gave a series of lectures in experimental physics at the Institute, soon after Dr. Compton became president. K.T. was always very modest about his scientific achievements, and was especially careful never to appear, even by accident, to take any of the credit for his brother's major discovery, a phenomenon in x-ray scattering which threw new light on collisions between photons and atoms and became known as the "Compton Effect." I have never heard Karl refer to it as the Compton Effect, but only as "my brother's effect." I do not know quite how to describe the way he said this — it was a quiet pride in the achievement of the brother five years younger than himself, whom as a youngster he used to carry around on his shoulders and refer to affectionately as his "sack of flour."

Professor Scherer had occasion in one of his lectures to refer to the Compton Effect. Many members of the Faculty were in attendance, a number of them, I am sure, to see how their new president would preside, and when the Compton Effect came up I could see some of the engineers nodding and smiling to each other as if to say, "See, this is a discovery of our new scientific president." Professor Scherer ob-

Members of the Compton family who attended dedication ceremonies of new laboratories in the physical sciences last June were: Mrs. Karl T. Compton, and brothers Wilson Compton (left) and Arthur H. Compton (right).

M.I.T. Photo



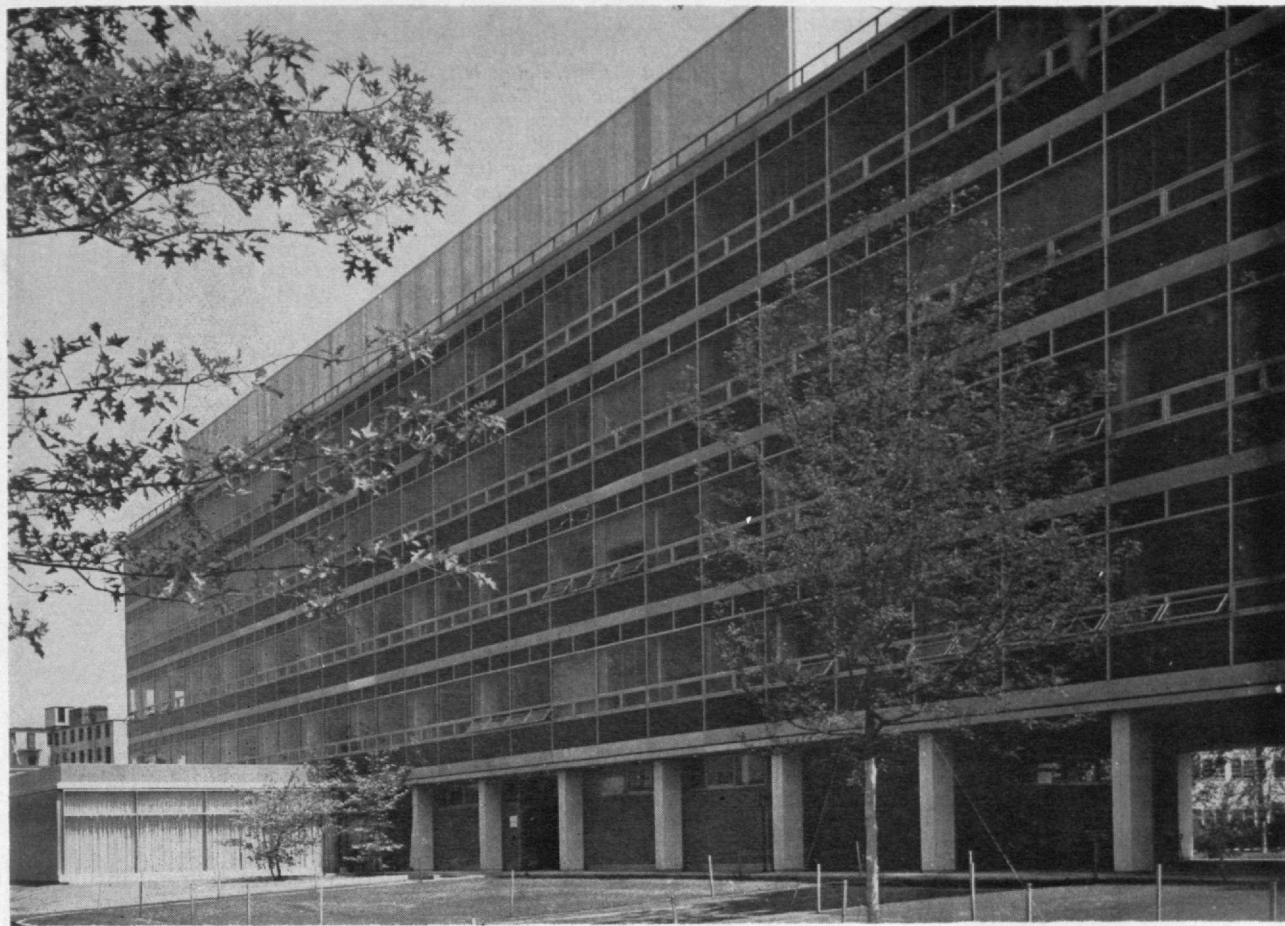
served this, also, for he stopped suddenly in his demonstration, raised his hands and said, "No! No! Zees Compton Effect, she is not Kah Tay. Zees is Ah Ha!"

Every room in the Eastman Laboratory was carefully planned by K.T. in consultation with his department heads (those were the dear dead days before the deans), first to fit in with what the occupants of the various bays desired, and then to perfect a unified design for an outstanding scientific laboratory. I remember particularly the discussion we had about the physics and chemistry shops. A ukase had come down from Samuel W. Stratton, then chairman of the Corporation, who had until Dr. Compton's arrival been president of the Institute and still maintained a very active part in its direction, that the Physics and Chemistry Departments were to have a single joint shop. This produced the same kind of violent reaction in my breast, and in some others, as a similar suggestion on my part recently produced in scientific breasts when I made the same suggestion in connection with the present laboratories.

Dr. Stratton had been responsible for the setting up of the shops at the National Bureau of Standards, and scientists there complained vigorously of the amount of red tape they had to go through in order to get any piece of scientific apparatus built, since they were required to put in a formal blueprint of any piece of apparatus desired, and would not see it again until the apparatus was delivered some months later. Pieces of new research equipment being designed by a physicist or chemist are likely to be improved as they take shape, and the professor and the mechanic must work closely together, the one on the backs of old envelopes, and the other at his milling machine. Furthermore, chemists use a different kind of plumbing from physicists and have their own peculiar ideas as to where nuts and bolts belong. So John Slater and I went to Karl Compton with our problem. He said, well, Dr. Stratton had given orders that there was to be a single shop, but he didn't see any objection if we wanted to put a row of shelves down the middle of the large shop area to separate the chemistry and physics sections. The shelves were put there, Dr. Stratton was fortunately nearsighted, and they have stood firm and substantial for the past 25 years. As Robert Frost says, "Good fences make good neighbors," and the two shops have dwelt side-by-side in the most peaceful co-operation and friendliness.

I still think of that line of shelving, as opaque and impervious a wall as anyone could ask for, as being a monument to Karl Compton's understanding, diplomacy, and foresight. Almost every day I look at this "Compton Line" with much benefit to myself. An administrator sees very forcibly the desirability of maintaining a minimum number of shops and libraries, and using common shop and library facilities for as large an educational entity as possible. K.T. knew from his own experience, and by example taught me to remember, the importance of getting books and tools as close as possible to where they can be used.

(Continued on page 70)



Photos — M.I.T. Photographic Service

View of the Karl Taylor Compton Laboratories, looking north from the Chemical Engineering Building. Computation Center is in single story structure at left; thoroughway, to Alumni Pool, at right.

New Science Facilities

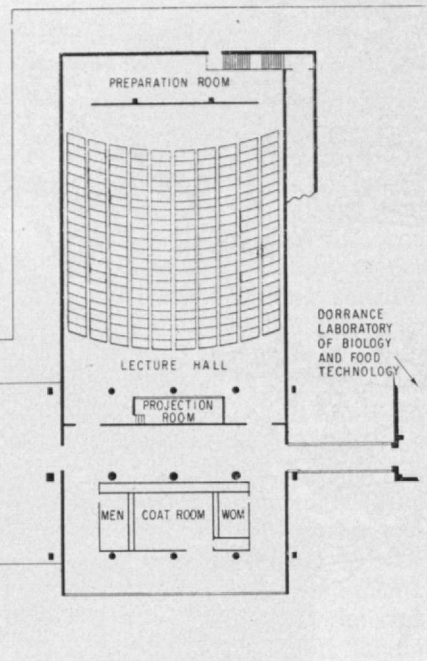
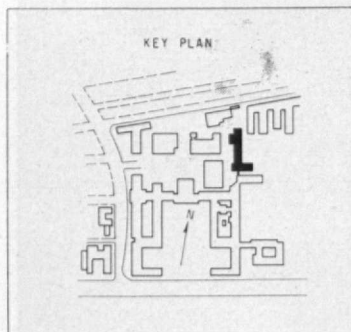
The Karl Taylor Compton Laboratories, and a nuclear reactor, are the Institute's newest facilities for advancing teaching and research in the whole broad field of the physical sciences

THE Karl Taylor Compton Laboratories building, together with the M.I.T. nuclear reactor now nearing completion, represents the newest additions to teaching and research facilities at the Institute. Both facilities will be used primarily to house research projects in the physical sciences but because of the close alliance between teaching and research, both may be regarded as educational. The Compton Laboratories will be the central home for the Research Laboratory of Electronics, the Laboratory for Nuclear Science, the new M.I.T. Computation Center, and a group of Faculty members engaged in studies in theoretical physics. Placing the headquarters of the Research Laboratory of Electronics and the Laboratory for Nuclear Science in the new building will make the Compton Laboratories the hub of research work that extends throughout the world.

The \$4,000,000 Compton building will add 148,000 square feet of floor space to the Institute's educational facilities, and was erected as a memorial to the late Karl Taylor Compton, former president and chairman of M.I.T. Of the total amount, \$3,135,000 was raised through efforts of M.I.T. Alumni, including contributions of \$1,000,000 each from Alfred P. Sloan, Jr., '95, and Irene du Pont, '97. Under construction as a part of the same general program of research and education is a \$2,400,000 nuclear reactor, now nearing completion on the M.I.T. campus.

It is anticipated that these new laboratories will provide for an effective symbiosis of the research and teaching phases of physics at M.I.T. The results of research very quickly find their way into teaching, even at the undergraduate level. For a decade the Research Laboratory of Electronics and the Labora-

Location of the Karl Taylor Compton Laboratories, in relation to other M.I.T. buildings, is shown in the key plan at the left. Below is the plan of the first floor of the new Compton Laboratories. First floor differs from other floor plans by including single-story structure housing the I.B.M. 704 computer (lower left), a single-story structure for lecture hall (right), and by providing through-way passage across the campus.



KARL TAYLOR COMPTON LABORATORIES
BUILDING 26

Karl Taylor Compton Laboratories (opposite page) as seen from point near the Alumni Pool and looking in southeasterly direction. Lecture hall is low structure at left foreground, with Dorrance Laboratories in the rear.

tory for Nuclear Science have operated at the forefront of current physical knowledge. It is logical, therefore, to expect the Compton Laboratories to foster education and research in the physical sciences, much as Karl Taylor Compton accomplished this aim during his life.

It is intended that the Compton Laboratories will house other research activities as these develop in importance. One indication of the constant change in research is the recent establishment of the M.I.T. Computation Center. This new and important facility was added to the present structure after it was initially planned. M.I.T. has pioneered in the development of computers and computing techniques for many years. The mechanical and electronic forms of the Bush differential analyzer were put into use in 1927 and 1943, respectively. The network analyzer, cinema integrator, and other computing devices were developed in the early 1930's. Whirlwind I, the first digital computer to have a magnetic core memory such as is used in the I.B.M. 704, was built at M.I.T. and has been in use since 1950. Thus, the new Computation Center with its I.B.M. 704 computer represents another important step in the Institute's program of advancing science through development and application of large-scale computing devices.

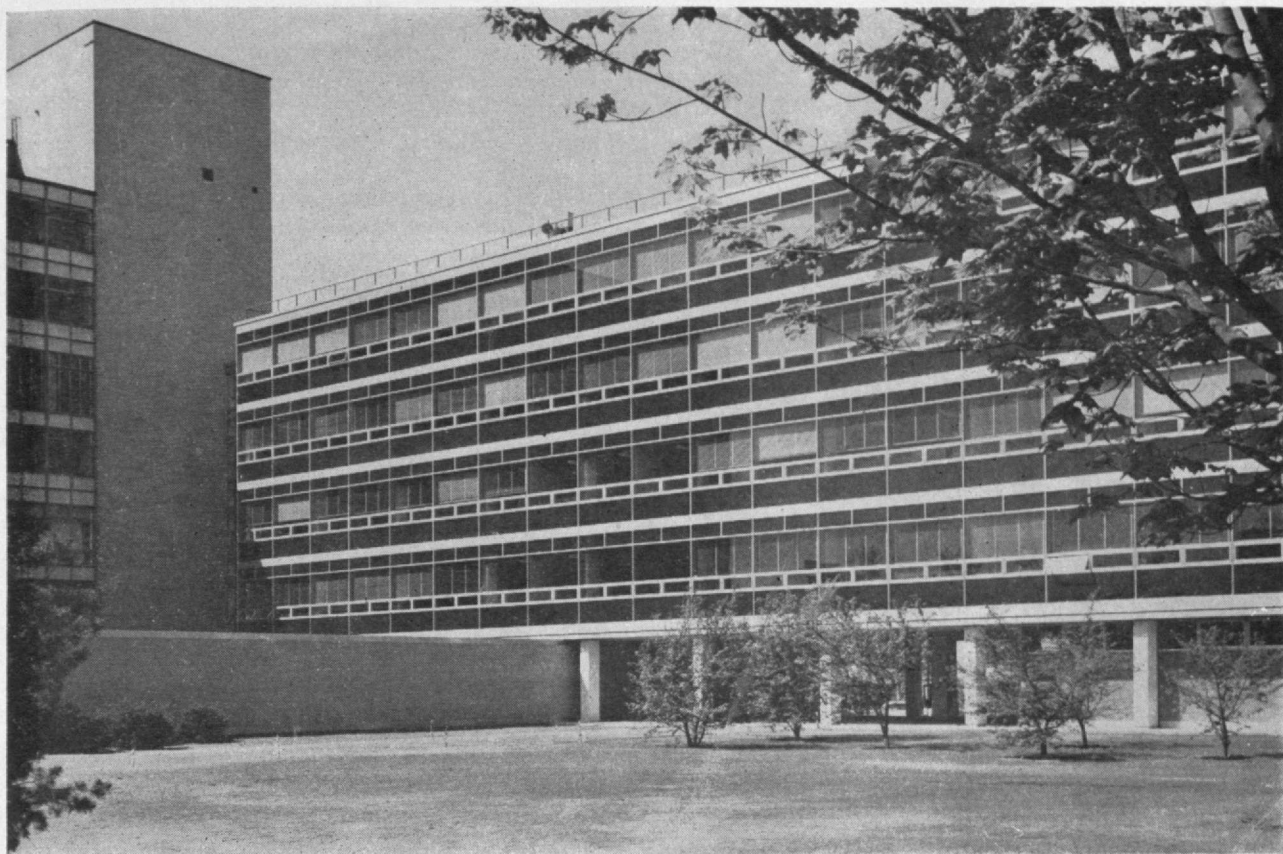
Amid pleasantly landscaped surroundings, the Compton Laboratories building is a handsome, completely modern, five-story structure of reinforced concrete with exterior walls of aluminum, enameled metal panels, and glass. Some areas on the ground floor are faced with speckled gray or blue glazed brick. The exterior facing contains black panels of porcelainized steel under which a honeycomb paper structure is placed on a galvanized plate. Vermiculite separates the two metal plates to fill the honeycomb

structure and to provide effective thermal insulation.

The building consists of five floors, a huge penthouse on its roof, well suited to the study of radar and cosmic rays, and a basement. It covers a ground area of 55 feet \times 333 feet, not including an area of 74 feet \times 44 feet on the ground floor in which the new computer is located, and an additional area 66 feet \times 112 feet for a lecture hall. Windows divided by horizontal black panels extend the full length of the four upper floors. The glass windows have a green tint to reduce transmission of heat into the building. This tint is clearly evident from the outside, but is barely noticeable when looking from the inside toward outside.

The new laboratories are located in an area of the Cambridge Campus northeast of the dome of Building 10. They lie between the Chemical Engineering Building 12 and Building 24 (used as the Radiation Laboratory during World War II) on the west, and the Alumni Pool on the east. The building connects with the main group of M.I.T. buildings by a glass enclosed walk at five floor levels at a corner of the Dorrance Laboratory of Biology and Food Technology which, in turn, connects with Buildings 8 and 6. The new Compton Laboratories extend north almost to Vassar Street. For those who knew the Institute a decade ago, the Compton Laboratories replace a temporary wooden research laboratory erected during World War II and later used as a dormitory for veterans.

Plans for all floors of the Compton Laboratories are essentially the same, except at the ground level. The first floor is larger than other floors by the space taken for the lecture hall and by the Computation Center. On the first floor are the lecture hall, Computation Center, some offices (most of which are concerned with the Computation Center), and an entrance and



throughway. The open throughway separates the area of the lecture hall from rooms associated with the Computation Center. It provides access to both but it also provides an openness to the grounds so that the Compton Laboratories does not divide the campus in two. In the throughway, on an exterior wall adjacent to the lecture hall, is a simple, large black granite plaque bearing the name, Karl Taylor Compton Laboratories, as shown on page 40.

Flexibility for Future Needs

In planning the Compton Laboratories, much care and attention have been given to provide as much flexibility as possible for future needs and expansion. It is recognized that a laboratory such as the Compton Building will house a variety of research projects, from time to time, having different requirements. One of the unusual features of the new building is that cables carrying electrical power at different voltages, phases, frequency and power ratings are run through it vertically rather than horizontally. This has been done so that equipment drawing considerable power can be used in any part of the building without stringing temporary cables through the corridors. Other service facilities (gas, water, plumbing lines, and so on) also rise from the basement for branch distribution on each floor. There is an electrical riser at the end of every bay, and a plumbing riser at the end of every second bay. So far as possible, electrical, plumbing, and other service lines have been stubbed off where not now needed, and can be quickly and economically brought into use when required.

The building is divided lengthwise along a center line. On the west side of the center plane are the

classrooms and most of the laboratories. To the east side of the center line are the corridor, the offices, and the smaller laboratories. On the east side of the corridor are also the Document Rooms for the Laboratory for Nuclear Science and for the Research Laboratory of Electronics.

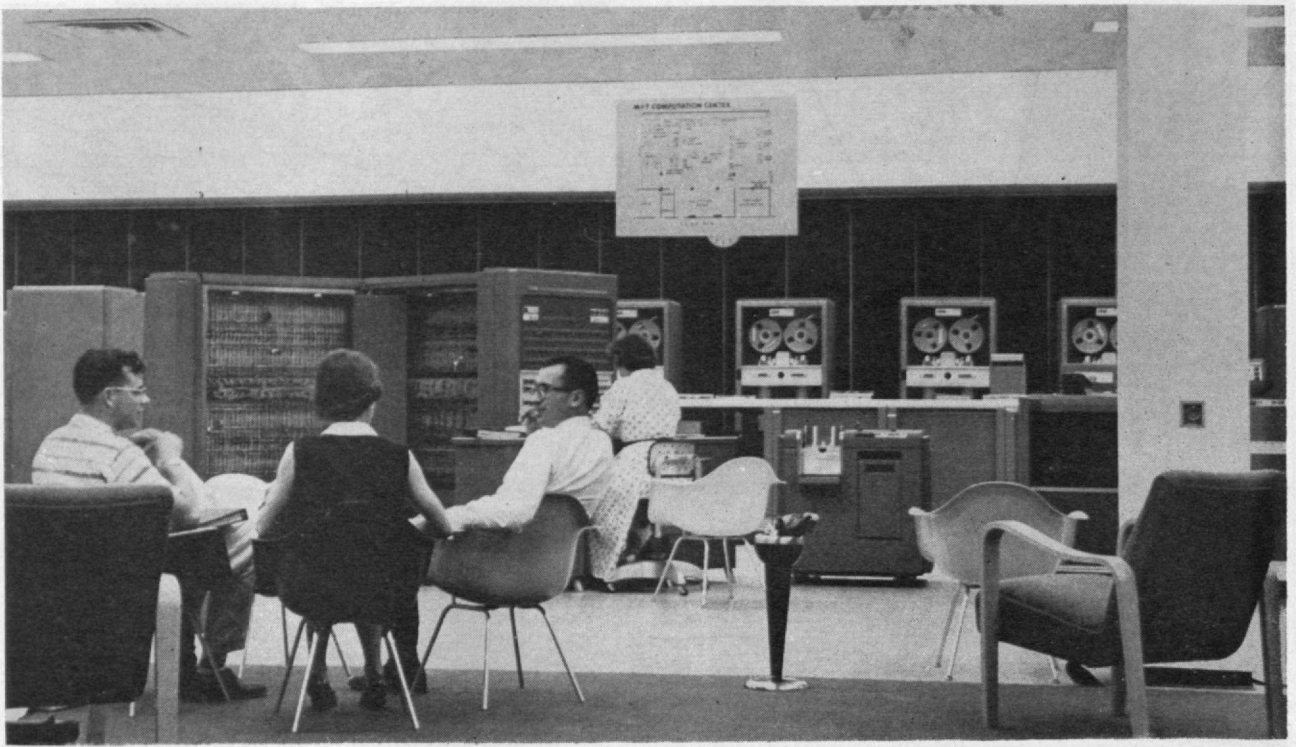
For the most part, single bay offices on the east side of the building are 9×16 feet in size; larger offices are multiples of this width. The rooms are free of columns or other obstructions, and larger rooms can be economically and easily divided into single bays when required.

An elevator is provided in the center of the building. It is about 8×8 feet in size and decorated in yellow enameled metal with fluorescent lighting around the ceiling. Adjacent to the elevator shaft are wash rooms and a staircase. A second staircase is at the north end of the building.

The first floor is divided into three major areas. That nearest the Dorrance Building is occupied by the Compton lecture hall. A separate one-story structure is used for this hall which seats 416 persons. The floor of the auditorium slopes down, and the speaker's platform and most, if not all, of the seats are below ground level.

Adjacent to the lecture hall is an open area or throughway which serves a double purpose. It provides entrance to the lecture hall and to the Computation Center and its offices, while also affording passage between campus areas on either side of the Compton Laboratories. Near the throughway a "time capsule" is deposited as recorded in the July, 1957, issue of *The Review*.

The third major area of the first floor houses the Computation Center (which, like the lecture hall, oc-



View of part of the I.B.M. 704 computer units in the M.I.T. Computation Center, as seen from the Reception Area.

cupies a separate structure one-story high), offices associated with the Computation Center, and offices for liaison between the Armed Forces and the Research Laboratory of Electronics. The first floor also contains a shipping room.

Computation Center

The Computation Center is housed in a separate structure (about 74 feet \times 44 feet) designed and built especially for the I.B.M. 704 computer and its associated equipment. This portion of the Compton Laboratories is air conditioned. The first floor contains three major rooms: the room holding the 704 computer (together with reception area); a programming room where material is programmed for the computer; and a customer engineering room which is staffed with I.B.M. personnel to keep the computer maintained and in proper order.

The new M.I.T. Computation Center will be one of the largest and most versatile data-processing facilities yet made available primarily for education and basic research. It was made possible through the co-operation of the International Business Machines Corporation who also installed the machine and will contribute toward the cost of maintaining and operating it for the use of M.I.T. and other New England educational institutions.

The program will mark the opening of a co-operative venture between the International Business Machines Corporation, M.I.T., and at least 23 other New England colleges to increase the number of scientists and engineers qualified to use modern computing machines, and to learn more about their application to research problems in many fields. The Center also will be used for instruction and research in management science.

The I.B.M. 704 computer occupies the major part of the first floor area of the computer wing. The 23 machine units making up the computer proper rest on a rubber tile floor under which there are steel flooring plates, but there is a 14-inch space between the steel plates and the floor proper of the computer building. This 14-inch duct is used for cables needed for interconnecting the equipment, and for air ducts for cooling the computer units. Considerable power is required to operate the machine, and the tubes used generate a good deal of heat which must be adequately dissipated. Two walls at the end of the computer building are double-walled thermopane glass. The west wall, nearest Building 24, is acoustically treated, as is the ceiling. In back of some of the acoustic treatment are panels for electric service facilities, and temperature and humidity controls.

A false ceiling of open grid work is suspended from the main ceiling. In this two-foot duct are fluorescent lamps for shadowless, overhead illumination, and ducts for the air conditioning.

The basement below the 704 computer contains an Electrical Accounting Machines Room for the preparation of tape and for other requirements for servicing the computer. This room is devoted to the punching of cards and other preparations needed to keep the 704 machine fed with data needed for its operation. All of this equipment is auxiliary to the computer; it serves to keep the computer performing as it should, but does not enter directly into computer operations beyond those functions associated with programming.

Lecture Hall

A major unit of the Compton Laboratories, on the first floor, is the lecture hall which will be used for

lectures and demonstrations for large groups. The auditorium is a large, well-lighted room, free of columns or other obstructions to seeing or hearing. In size it is 66 feet \times 112 feet and is divided into two separate sections. The smaller of these is the stage, containing lecture and speaker's tables, and a new type of hydraulically operated, enameled metal "blackboard." The larger portion seats approximately 416 persons in chairs and school desks designed for rapid access. Seats are arranged in pairs and each seat is an "aisle seat" so that students can enter or leave without crossing in front of other persons.

The seats are arranged at two different slopes. The first nine or 10 rows have a gradual slope, whereas the rear 11 rows have a steeper slope. This construction allows those in the rear to see over the heads of persons sitting in front of them, so all may have an unobstructed view.

The room is constructed of concrete, and steps are covered with rubber mats. The walls are of concrete or brick, with plaster facing. There are no windows or other breaks in the walls which have an undulating surface for proper acoustics. The ceiling is acoustically treated, below which rows of cold cathode lamps provide uniform illumination. The rows of cold cathode lamps are separated, at about two-foot intervals, by birch strips.

Lecture facilities at the front portion of the room include a concrete platform, about one foot high and 51 feet \times 8 feet. A large lecture and demonstration table is provided for conducting experiments; this is provided with gas, air, electricity, and similar facilities. A separate speaker's table or lectern is provided. Behind the lecturer, the double-walled, hydraulically operated blackboards are easily visible from any part of the auditorium. Overhead lamps provide illumination of high intensity and uniform distribution for the blackboard, whether the main ceiling lights are on or off. Above the speaker's table, at ceiling height, is a loudspeaker for distributing sound from a public-address system. This is useful for speakers with small

voices or when the room is fully occupied, although average speech can be well understood without too much reinforcement by electrical means.

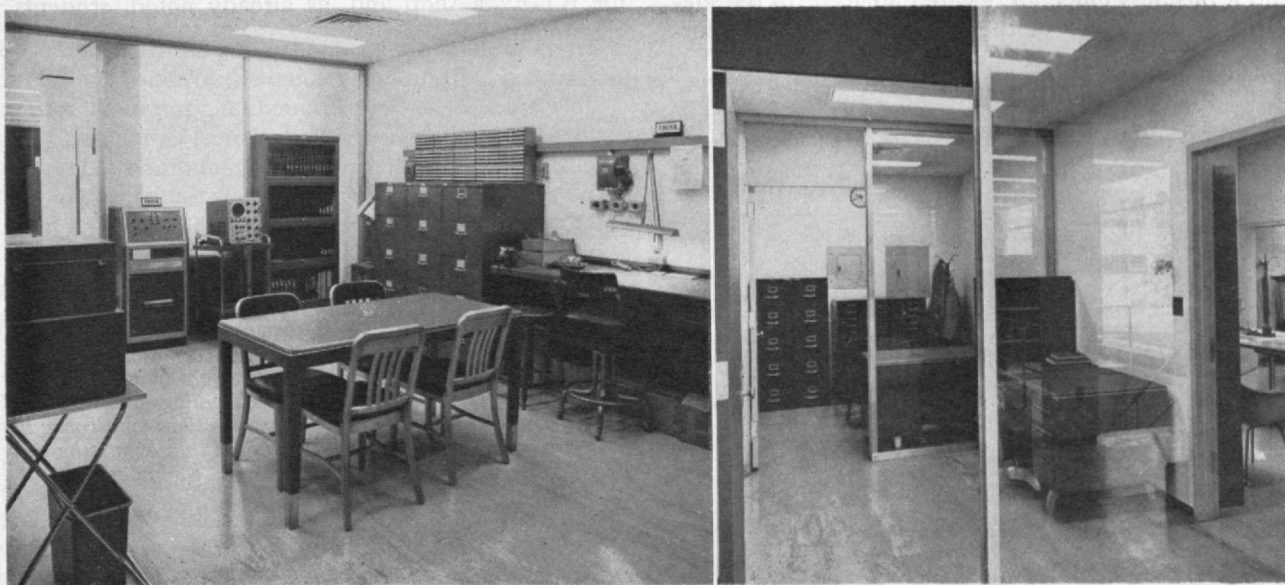
Behind the instructor's table is a blackboard 48 feet wide. This can be supplemented by three 16-foot blackboards which can be raised or lowered hydraulically. A 12 \times 16 foot motion picture screen can also be raised or lowered electrically at the front of the lecture hall.

At the side walls, near the speaker's platform large rectangles of white material may be used for projecting illustrations on the side walls. These panels may be turned at a 45-degree angle with respect to the side wall. This is especially useful when the results of demonstrations are to be projected. An exit, to the right of the audience, is provided, and a clock is on the opposite side of the room.

A Preparation Room is in back of the blackboards. This contains bays of steel racks housing laboratory apparatus needed for demonstration lectures for first- and second-year physics students. Lecture tables can be prepared in the Preparation Room and wheeled onto the lecture platform already set up, in a few moments.

The lecturer controls all lights and a demonstration table is provided with gas, water, electric power, and other services as may be needed. Lights for room illumination, blackboard illumination, operation of blackboards, operation of screen for projection, can be controlled from three different positions: (1) the lecturer's desk; (2) the Preparation Room; or (3) the Projection Room.

A film projection room (28 \times 8 feet) extends across the rear of the hall, above and behind the students' heads. It provides ample space for all kinds of projectors and television cameras. The ceiling of the hall has been made of birch flooring, recessed for continuous cold cathode lighting. Panels can be removed from this ceiling to permit the lowering of a gondola for additional cameras or a large-screen television projector if this proves to be desirable.



Adjoining the Reception Area in the Computation Center is a combination office and laboratory for Customer Engineering (left), and two smaller rooms devoted to the dispatching and scheduling of programs for the 704 computer.



Technical operations relating to the use of the computer are handled in this office of the Computation Center, on the first floor of the Compton Laboratories.

Outside of the lecture hall will be found wash rooms, drinking fountain, fire alarm box, and fire hose. Public and M.I.T. telephones are near at hand, and a check room can accommodate 525 persons. All lights in the corridor are from the ceiling. Floor is of Dextone, with walls of brick tile in two colors, yellow and speckled gray.

Facilities on Other Floors

Approximately one-fifth of the floor area of the second floor is occupied by the offices, conference rooms, and library of the Computation Center. Rooms associated with the computer are located at the north end of the building where they are in proximity to the 704 I.B.M. computer on the first floor and the card punching and auxiliary services in the basement.

The rest of the second floor houses activities of the Research Laboratory of Electronics. Headquarters and a business office are located adjacent to the elevator in the center of the building. Offices, confer-

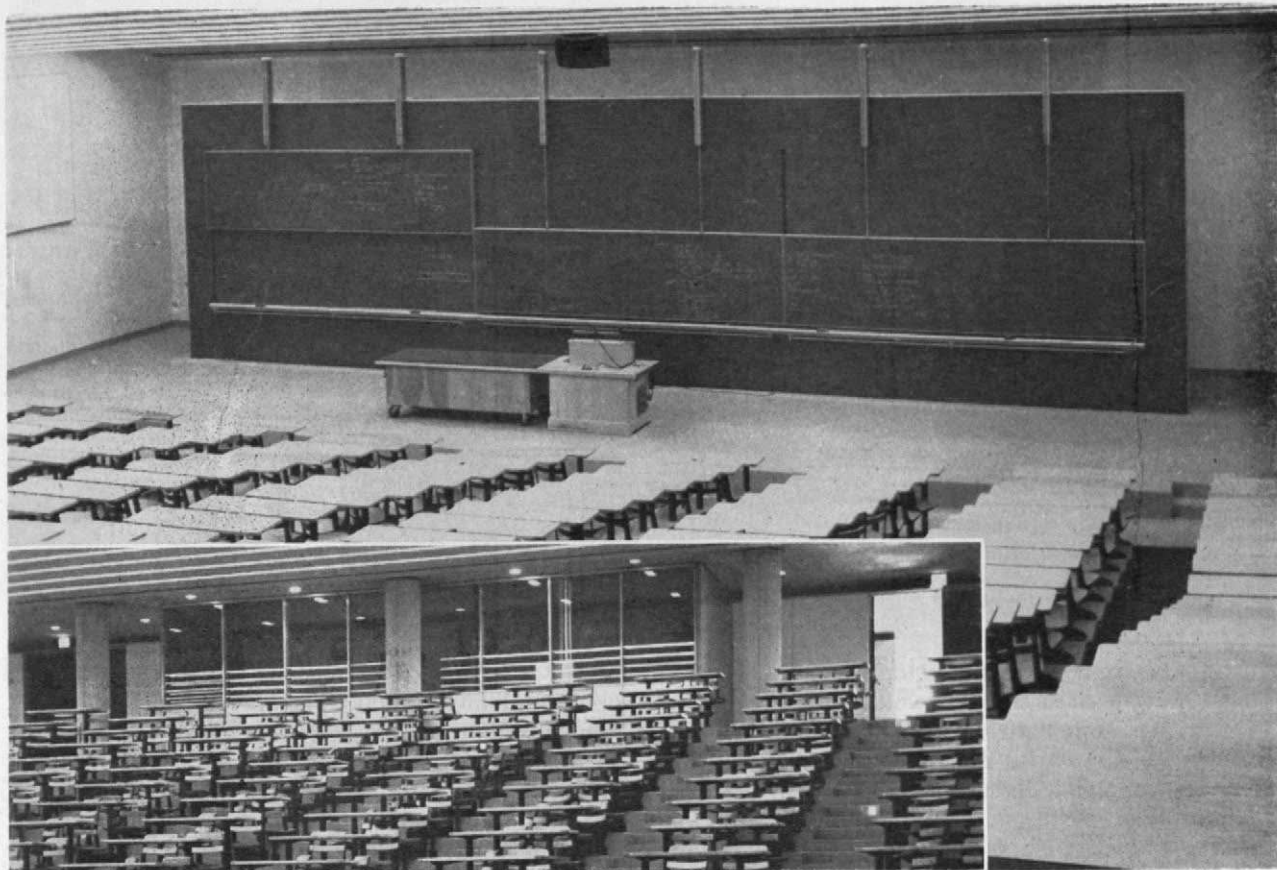
ence rooms, seminar rooms, and classrooms occupy the rest of the second floor.

There are four classrooms on the second floor, and four on the third floor. The classrooms seat 42 persons in cast-iron and birch-top desks accommodating two or three students. Four of these classrooms are provided with special light-tight aluminum Venetian blinds which can be closed well enough to darken the room for projection of slides or motion pictures. The classrooms are also provided with electrical conduit facilities so that they can be used for future television programming should this later prove to be a desirable educational activity. They connect with television conduit facilities which have been installed in the auditorium and can be put to immediate use when television invades the classroom.

The third floor is occupied by the Research Laboratory of Electronics. Here are the headquarters, business administration office, and document room for R.L.E., a shop and, as already noted, students' classrooms.



In the basement of the Compton Laboratories, directly under the I.B.M. 704 computer units, is the Electrical Accounting Machines Room for punching cards and handling similar auxiliary operations which may be required to program the new computer.



Lecture hall in the Karl Taylor Compton Laboratories. The larger view shows the lecture hall as normally seen by students, with 48-foot blackboard — a portion of which may be raised electrically. White panel at left may be swung to 45-degree angle and used for projecting pictures from speaker's table. The insert shows the lecture hall as seen by lecturer, with exits on each side of the glass-enclosed Projection Room.

On the fourth floor are the headquarters, library, document room, and seminar room for the Laboratory for Nuclear Science. The fifth floor is also occupied by the Laboratory for Nuclear Science.

The penthouse contains a large laboratory room which overlooks Cambridge and Boston, and which is well suited to the needs of radar or cosmic ray research where unobstructed view is an asset. The penthouse exterior is faced with anodized aluminum. In addition to the large laboratory space, the penthouse contains one room housing the cooling tower for chilling water of the condensing unit for the computation laboratory, and another cooling tower for air conditioning the lecture hall. Another room houses mechanical equipment to provide blowers for classroom and corridor ventilation. The penthouse is designed to stand 100 pounds per square foot.

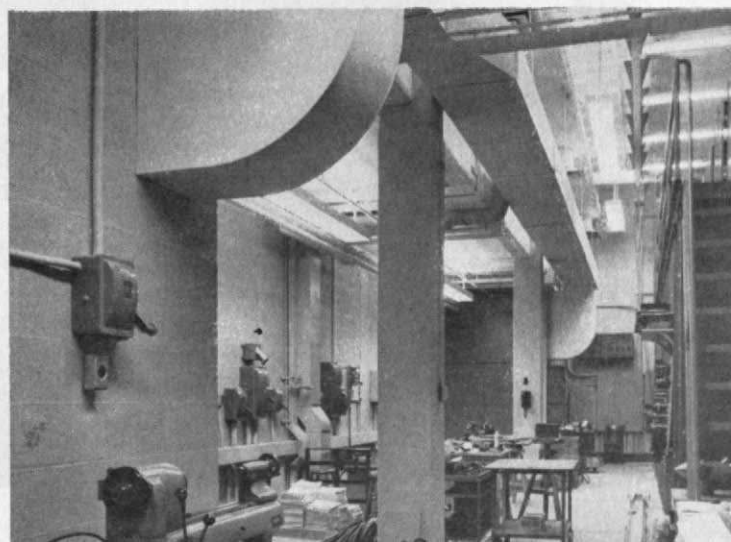
General Services

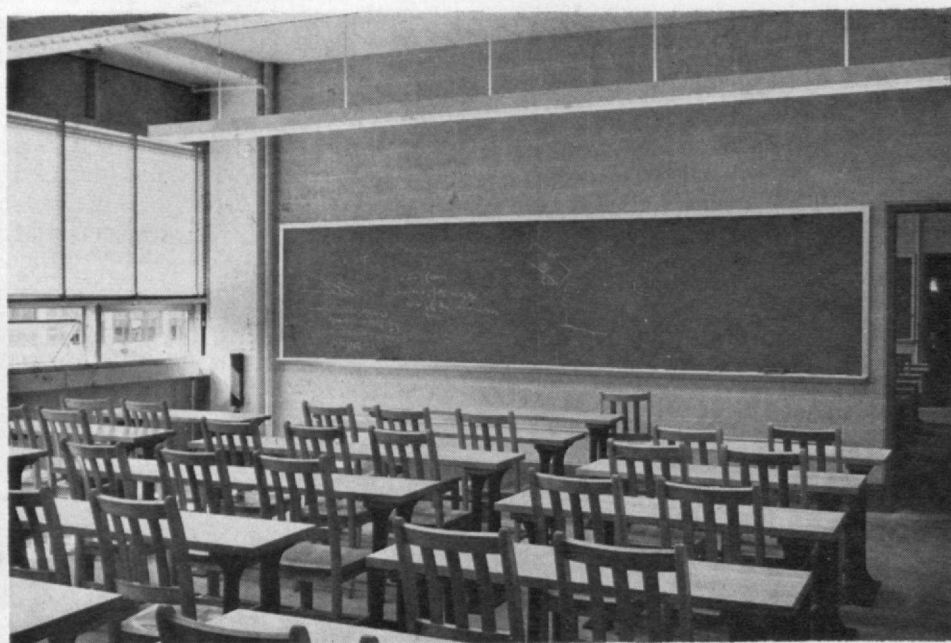
The basement will be shared by: (1) the Computation Center; (2) the Laboratory for Nuclear Science; (3) the Research Laboratory of Electronics; and (4) Physical Plant Department. It contains service equipment and provides for distribution of all services. Power comes in from the Cambridge Electric Company at 13,800 volts, three-phase system, and is distributed in a three-phase, four-wire, 208-volt system through the laboratories. Power of 1,500 kilowatts comes into the laboratories, exclusive of that used by the Computation Center. Two power panels are em-

ployed, each handling 750 kilowatts of power. It is possible to take a load from either of these units (up to the limit of 750 kilowatts) or to take power from both units simultaneously. Should failure of the primary source of power occur, interconnections can be made to take power on an emergency basis from the Dorrance Laboratory.

A battery and generator room contains storage batteries and special generators (such as a 400-cycle generator) to supply the laboratories with special electrical facilities. In several rooms throughout the

Preparation Room, in back of blackboards of lecture hall, used for setting up experimental apparatus for physics lectures.





One of eight classrooms in the Karl Taylor Compton Laboratories. This room is typical of other classrooms, and can seat 42 persons. Special close-fitting Venetian blinds can be adjusted to darken the room for projection of still or motion pictures.

laboratories, six copper conductor bars of 1,000,000 circular mils area carry low voltage, high-current power from storage batteries in the basement to laboratories, such as that for the molecular beam studies, where low voltage, high-current D-C source of power is required. Below the basement, a conducting grid, buried in moist earth when the foundations were dug, provides a good ground connection for several laboratory rooms.

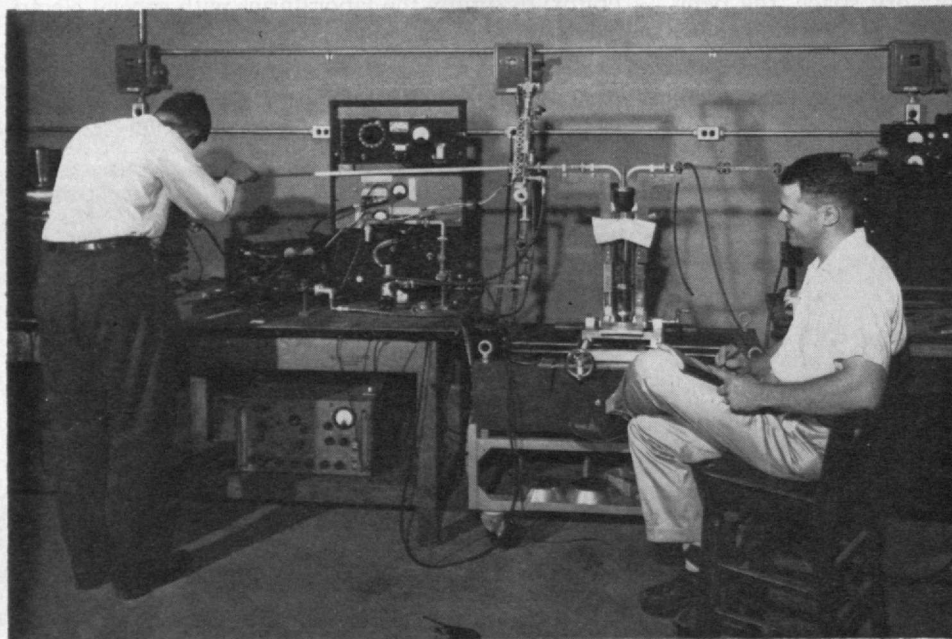
The basement also contains space for mechanical equipment for air conditioning. Two air-conditioning units are used below the room housing the 704 computer. One of these is used to condition the computer elements. The second air-conditioning unit is used to condition the air circulating generally around the room. A great deal of care has been taken to prevent the computer from operating if the air-conditioning units become inoperable. Hence, should the compressors or other air-conditioning units fail, interlocks will act to shut off power to the computer cabinets until proper environmental conditions are restored. A

power of 225 kilowatts is needed to operate the computer, and another 300 kilowatts is used to air condition the rooms in which the computer equipment is located. Altogether the computer requires 100 tons of air-conditioning equipment.

The mechanical service room also contains interlocks for fire-protective apparatus so that in event of fire, all electrical power is removed from the computer, whereas fans are set into operation to purge the rooms of noxious gases that usually arise from burning electrical apparatus or equipment.

The architects of the Karl Taylor Compton Laboratories were Skidmore, Owings and Merrill of New York, and Gordon Bunshaft, '33, of that organization was most helpful. The contractor was the George A. Fuller Company of Boston and New York. Construction of the building has been under way for more than two years, and moving the two interdepartmental laboratories into it took most of the summer.

Alumni may well be proud of the role they — and industry — have played in establishing this memorial



Typical laboratory in the Karl Taylor Compton Laboratories building devoted to research in the physical sciences.

Document Room of the Research Laboratory of Electronics, on the third floor of the Compton Laboratories, contains thousands of periodicals and reports dealing with recent progress in electronics and closely related subjects.



to a beloved former president of M.I.T. Many were present for the dedication ceremonies on Alumni Day, June 10, including Alfred P. Sloan, Jr., '95, who gave \$1,000,000 to the memorial and was instrumental in first suggesting that the new laboratories be named for Dr. Compton. Alumni have furnished two rooms in the Laboratories — the John Picker Kolker Room, given by Leon A. Kolker, '31, in memory of his son, and a room donated by George E. Merryweather, '34, given in the name of his Cleveland firm, the Motch and Merryweather Machine Company. Thomas J. Watson, Jr., President of the International Business Machines Corporation, and a special term member of the Institute's Corporation, set the 704 computer in operation on Alumni Day. Substantial support has also come from Du Pont, [Edwin S.] Webster, and Kresge Foundations as well.

Nuclear Reactor

Although not part of the Compton Laboratories, the nuclear reactor now nearing completion in Cambridge is another excellent example of the advanced research facilities that are being established at the Institute to emphasize the complementary aspects of research and education. Research reactors, such as that now being built at M.I.T., are finding increased application in advanced education in nuclear science and engineering, as well as in nuclear research and development. A research reactor is a reactor built primarily for advancing knowledge of the physical world, rather than for producing power or radioactive materials.

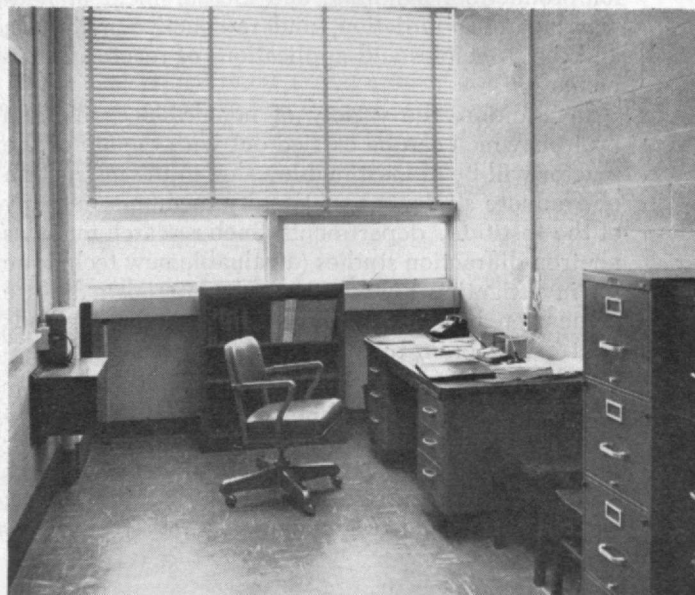
Since the M.I.T. reactor is intended as a tool for research and education, two significant factors were kept in mind throughout the period of planning and design. First of all, the reactor should be readily accessible to the Institute Faculty and also to other medical, industrial, and educational agencies in Metropolitan Boston. This has been achieved by locating the reactor in Cambridge on Albany Street, west of Massachusetts Avenue. The reactor is in

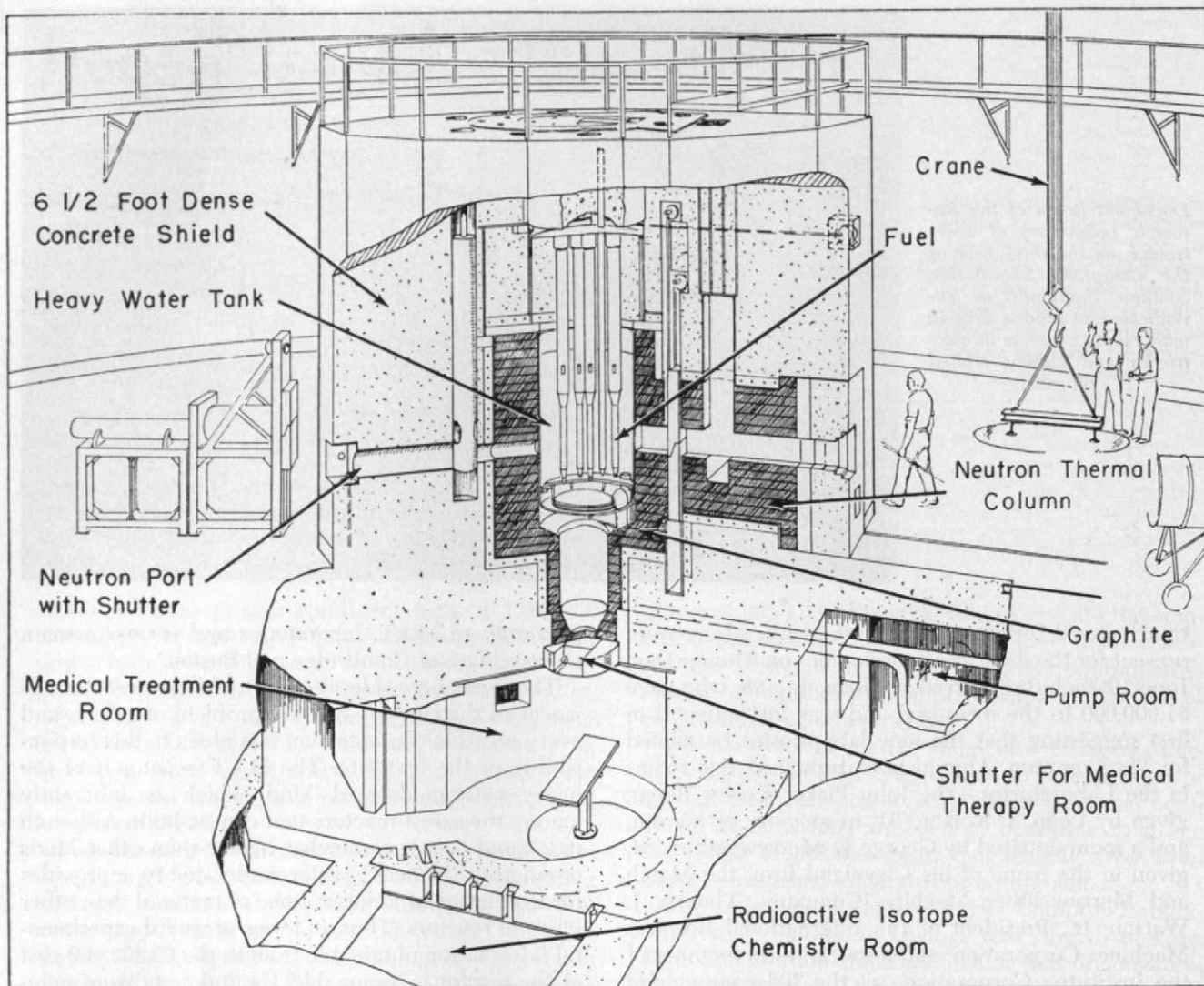
proximity to M.I.T. laboratories and is near a main thoroughfare of Cambridge and Boston.

The second consideration in building a reactor adjacent to the campus was the problem of safety, and every possible consideration was given to this responsibility of the Institute. The M.I.T. reactor is of the heavy-water-moderated kind which is inherently among the safest reactors that can be built. Although its capital cost is somewhat higher than other kinds of reactors, the heavy-water-moderated type provides for irradiation of larger volume of material than other kinds of reactors. Thus, in terms of useful experimental information obtainable from it, the \$2,400,000 cost of the reactor is reasonable. Capital costs were minimized by designing the reactor as simply as possible, without unnecessary ornamentation or accessories.

Two main uses planned for the M.I.T. reactor are to advance the Institute's program of graduate education in nuclear engineering, and to support a varied program of research. It is in an unclassified area and

Typical single-bay office in the Compton Laboratories is strictly functional and utilitarian, but pleasantly conducive to intellectual endeavors.





This cutaway drawing shows the general construction of the M.I.T. nuclear reactor now nearing completion in a cylindrical steel structure on Albany Street near Massachusetts Avenue. The fuel element (center) is surrounded by a tank of heavy water, graphite, and concrete shielding. A room on the lower level is for medical research. Every effort has been taken to provide for flexibility of research needs, combined with maximum safety.

will be used for unclassified research and teaching. The reactor will be used as a principal facility in a nuclear engineering laboratory course. It will also be employed to teach engineers and scientists the theory, design, and operation of nuclear reactors; techniques for production, handling, and measurement of neutrons, gamma radiation, and radioactive materials; and the principles and applications of reactor instrumentation.

In addition, the variety of nonclassified research projects which can be carried out with the aid of the reactor will be of inestimable value in the instruction of graduate students and Faculty members in many of the Institute's departments. Such research includes neutron diffraction studies (a valuable new technique for investigating the structure of materials); the use of neutron beams in developing improved methods for treating brain tumors and other cancers by neutron beam therapy; production of short-lived radioisotopes for research studies in the Boston area; radiochemical studies; promotion of chemical reactions; activation of engineering and test materials; food processing and sterilization; study of mutations; and reactor engineering studies.

The reactor consists of two structures. One of these is a cooling tower through which heavy water is circulated for cooling. The reactor building is a cylindrical steel shell, 70 feet in diameter, with a steel dome rising 50 feet above street level.

All entrances to the reactor building are of the air-lock type, with pressure locks on the doors. The building is automatically sealed if radioactivity is released. A 20-ton crane on a circular track, around the circular concrete shell, services the experimental area within the building. Between the reactor shell and the outer walls, a clear work area, 25 feet across, is provided. A concrete-framed entrance is provided for trucks to deliver or remove experimental material.

The reactor building will be air conditioned. Air entering the building will be dehumidified and its temperature will be maintained at between 70 degrees and 75 degrees F. Two circuits of A-C power at 110 volts and 220 volts are provided for experimental apparatus. In addition, compressed air, cooling water, and vacuum lines are provided.

Most of the experimental work will be done on the first floor where provision is made to conduct as many

(Continued on page 80)

President's Annual Report

Outstanding teachers are regarded as the top priority in a report which stresses the importance of increasing student scholarship funds as well as of Faculty salaries

by JAMES R. KILLIAN, JR.

A MASTERFUL and penetrating analysis of the problems confronting higher education in the United States is contained in the ninth annual report which President James R. Killian, Jr., '26, presented to members of the M.I.T. Corporation at their meeting on October 7. While Dr. Killian's remarks obviously are primarily concerned with matters affecting the successful operation of M.I.T., the policies and activities of the Institute are reviewed "in their relation to the national setting." It is inevitable, therefore, that much of Dr. Killian's report deals most significantly with major problems of higher education — particularly in the field of technology — wherever they may be encountered in the United States.

In capsule form, Dr. Killian believes that the more immediate goals to strive for, to assure the Institute's continued leadership in higher education, are: (1) to increase Faculty salaries (which have not kept pace with those of industry or even with inflation); (2) to increase the teaching effectiveness of the Faculty by all possible means; (3) to encourage outstanding college graduates to embark on teaching careers and to make teaching careers as attractive and lucrative as industrial careers; and (4) to increase scholarship and loan funds so that no intellectually endowed student need be denied a college education for economic reasons.

In emphasizing that teachers constitute the top priority in the nation's educational objective, Dr. Killian compares M.I.T.'s aims with those set forth, for the nation as a whole, by President Eisenhower's Committee on Education Beyond the High School. President Killian says:

The Second Report of President Eisenhower's Committee on Education Beyond the High School, published in July, 1957, affords us an interesting opportunity to examine our policies, priorities, and needs in the light of the recommendations of this Committee. Let me select those items from the Committee's report (*italics*) which are relevant to a private institution such as M.I.T. and briefly summarize how we stand in relation to them.

Teachers — The Top Priority

The Committee recommends to every board of trustees . . . (1) that the absolute highest priority . . . be given to raising faculty salaries, . . . with particular attention to increasing the spread between the bottom and the top . . . (2) that action also be taken to provide at moderate cost such benefits as health and life insurance, etc.

In M.I.T.'s financial planning and current fund raising, we give top priority to finding the means to increase faculty compensation. In the past five years the average salary of our assistant professors has been increased 15.5 per cent, that of full professors 15 per cent. We have thus achieved modest gains, but these are not enough. (The President's Committee recommends doubling the current national average in the decade ahead.)

We are now raising a wasting fund to finance selective salary increases introduced this year and to provide for additional increases. Mr. Sloan [Alfred P. Sloan, Jr., '95], through the Sloan Foundation, has offered to grant M.I.T. up to \$1,250,000 for this salary fund, provided the Institute obtain \$3,750,000 to provide a total of \$5,000,000. The Corporation has accepted the challenge of this generous and most timely offer. Under the chairmanship of our fellow Corporation member, Walter J. Beadle, '17, we have now launched a special and concentrated drive to raise at least the \$3,750,000 needed to obtain the full amount from the Sloan Foundation — and, we hope, to exceed this total to offset continuing inflation and to help on our long-term needs.*

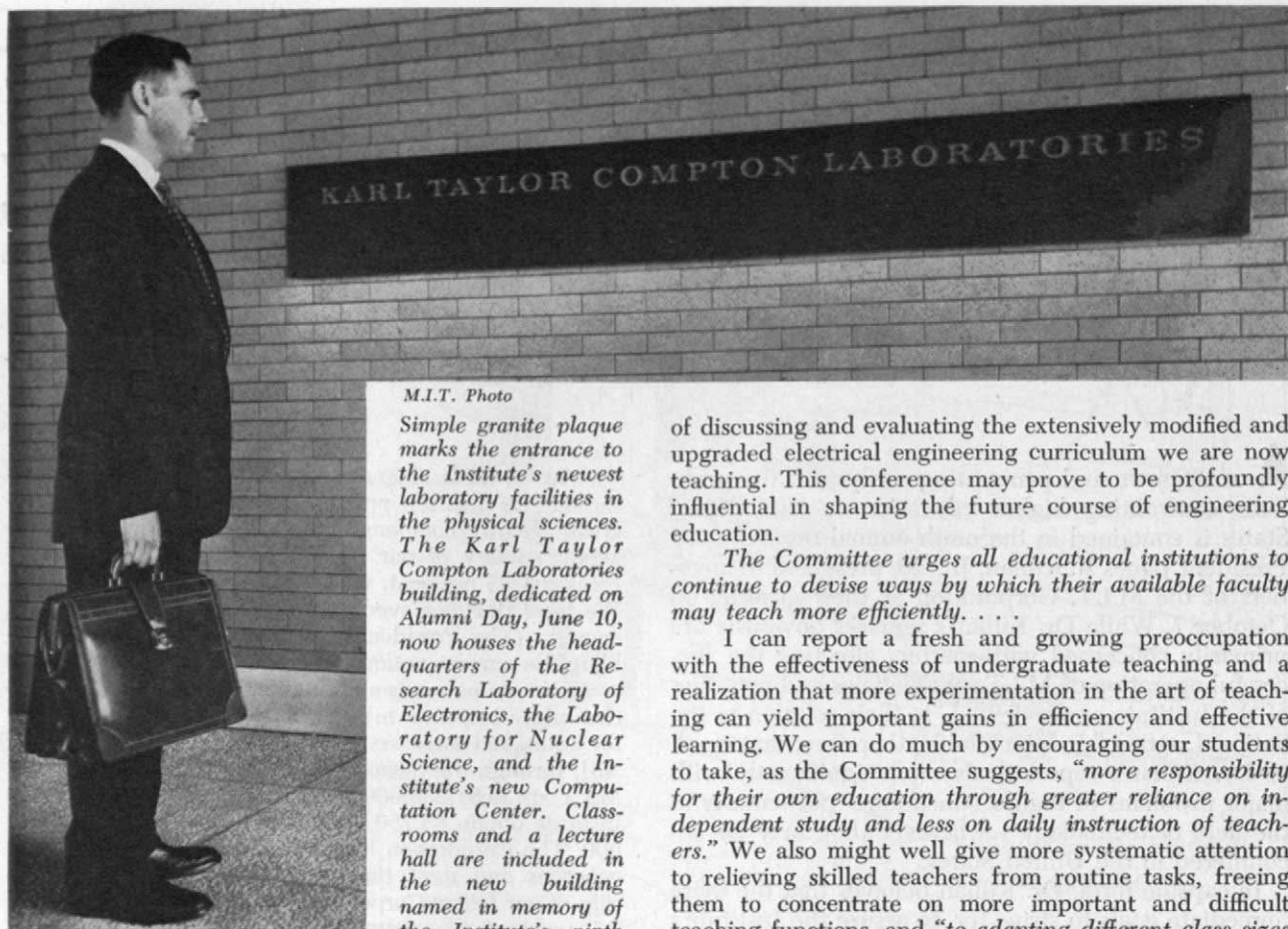
The Institute's salary scale is relatively good compared with other major universities and is substantially higher than the national average; but our main competition now comes from industry. We have been engaged in many rear-guard actions to hold valuable members of our staff who are offered industrial salaries far higher than we can pay. Even more distressing is the difficulty we have in attracting enough able young graduates to elect academic rather than industrial careers.

We share the sense of urgency of the President's Committee. If our effort to raise a wasting fund to be spent over five years is successful, we can take an unconventional and bold step to raise compensation. Insuring the future strength of M.I.T. requires and justifies our doing so.

The Committee urges the faculty of every college and graduate school to join . . . in a nationwide effort to recruit undergraduates and graduates of high talent for college teaching.

Except in a few fields, the number of our graduates electing teaching careers continues small in comparison with the need. Only 28 of our 170 doctor's degree re-

* Mr. Beadle has associated with him the following regional vice chairmen: Oliver L. Bardes, '21, of Cincinnati, Charles A. Chayne, '19, of Detroit, Francis J. Chesterman, '05, of Philadelphia, Cecil H. Green, '23, of Dallas, Robert C. Gunness, '34, of Chicago, Homer V. Howes, '20, of St. Louis, H. W. McCurdy, '22, of Seattle, Antonio H. Rodriguez, '21, of Havana, William C. Sessions, '26, of Cleveland, David A. Shepard, '26, of New York, William J. Sherry, '21, of Tulsa, Raymond Stevens, '17, of Cambridge, William L. Stewart, Jr., '23, of Los Angeles, and Irving W. Wilson, '11, of Pittsburgh.



M.I.T. Photo

Simple granite plaque marks the entrance to the Institute's newest laboratory facilities in the physical sciences. The Karl Taylor Compton Laboratories building, dedicated on Alumni Day, June 10, now houses the headquarters of the Research Laboratory of Electronics, the Laboratory for Nuclear Science, and the Institute's new Computation Center. Classrooms and a lecture hall are included in the new building named in memory of the Institute's ninth president.

cipients last year have gone into college teaching. The attractions of industrial jobs, especially in engineering and the sciences, are too great. I see evidence of improvement; but I also see the need for more systematic encouragement of students to elect teaching careers in our national system of higher education. It is indeed true, as the Committee observes, that "high-powered recruiters descend upon campus these days for nearly every career but teaching."

Our major contribution to augmenting the supply of teachers is to be found in the growth of our Graduate School, which is, of course, our chief training ground for teachers. Since 1950 our annual enrollment of graduate students has risen from 1,675 to 2,500. We are thus preparing more men and women with the qualifications to teach, provided they can be attracted into academic careers. Through teaching assistantships, of which we have about 270, we also give graduate students exceptional opportunities to learn, through apprenticeship, the art of teaching; and we diligently seek to attract from our own graduate student body candidates for our own junior staff. . . .

The President's Committee observes, "Great good for all higher education might come from the establishment of a few highly experimental new colleges which could test out radically new methods of achieving better utilization of faculty and space, unfettered by traditional campus practices." We believe that M.I.T. has a responsibility to experiment and test out radically new methods, doing this within our existing framework.

Last month our Electrical Engineering Department, with funds provided by the National Science Foundation, held an eight-day "Workshop" attended by professors of electrical engineering from 104 engineering colleges in the United States and Canada, for the purpose

of discussing and evaluating the extensively modified and upgraded electrical engineering curriculum we are now teaching. This conference may prove to be profoundly influential in shaping the future course of engineering education.

The Committee urges all educational institutions to continue to devise ways by which their available faculty may teach more efficiently. . . .

I can report a fresh and growing preoccupation with the effectiveness of undergraduate teaching and a realization that more experimentation in the art of teaching can yield important gains in efficiency and effective learning. We can do much by encouraging our students to take, as the Committee suggests, "more responsibility for their own education through greater reliance on independent study and less on daily instruction of teachers." We also might well give more systematic attention to relieving skilled teachers from routine tasks, freeing them to concentrate on more important and difficult teaching functions, and "to adapting different class sizes to accommodate more efficiently the various objectives of learning." In remarking on these recommendations, I hasten to point out that M.I.T. has gone far in providing supporting services to its teaching staff. I emphasize, too, that our whole educational philosophy is to provide quality education; our emphasis is on educational effectiveness and the highest standards rather than on economic efficiency (although we seek that, too, so long as it is compatible with quality).

The Need For Assistance To Students

The Committee urges that individual colleges and universities seek to expand the use of loans, in combination with other forms of student aid. . . .

Under the leadership of Gerard Swope, '95, M.I.T. established a large loan fund in 1930. Since that time we have lent \$4,000,000 to 5,000 students. Of the students who have borrowed, 98.4 per cent have paid back their loans on time — at the rate of \$50 every six months following graduation. These loans bear an interest rate of 1 per cent, and this rate covers all defaults several times over. Thus not only does the fund revolve, but the corpus of the fund has also been slowly growing. In fiscal 1957 we will lend about \$500,000 to our students, both graduate and undergraduate. . . . While aversion to borrowing is an admirable quality in certain circumstances, so too is the willingness of a young man to bet on himself and his future. It is a frequently observed fact that parents who express objections to borrowing money for education will readily borrow money in order to purchase a host of family luxuries. This represents a curious inversion of values. . . .

The Committee finds that presently available scholarships are grossly inadequate . . . recommends that private, local, and state sources increase their support of scholarship funds to several times the present amount

and number of scholarships . . . that scholarships should include (when feasible) provision of funds for the institution . . . to pay for the cost of educating the student above what he pays through fees and tuition.

While the Institute has had a gratifying increase in scholarships available to its students and has benefited greatly from the growing national scholarship programs financed by industry and foundations, we still find ourselves short of needed scholarship assistance for both undergraduates and graduates. We estimate that over the next 10 years we should add, on the average, about \$1,000,000 per year to our endowment funds for scholarships and fellowships. As national and regional scholarship assistance grows, the funds available to individual institutions should also grow. Each institution needs the flexibility that comes from scholarships under its own control. . . .

Private institutions, as they improve faculty compensation and meet rising costs of operation, will inevitably have to increase student fees; but this cannot be done unless student aid is also increased. This relationship between tuition policy and student aid is recognized by the President's Committee when it recommends "*that charges to students in private institutions in general be gradually increased in order at least to maintain the proportion of total costs paid by students; and that programs of student assistance be stepped up to support increases in tuition and other charges.*" This is M.I.T. policy. . . . At present, the M.I.T. tuition covers less than half of the Institute's educational costs; every student automatically gets a "scholarship" larger than the tuition he pays. . . .

The Committee recommends an experimental federally supported work-program for students. The idea that students be given the opportunity to help themselves by working is very sound, and M.I.T. makes jobs an integral part of its student aid program. In fact, we have more jobs for students than we have takers. For our kind of academic environment, we have no need for a federally supported program. Student earnings at M.I.T. now total over \$400,000 a year, exclusive of salaries paid to graduate students holding assistantships.

Admissions

The Committee does not agree with those who argue that, in order to preserve quality, colleges must sharply restrict enrollments to something like their present level by boosting admissions standards. . . . We are not yet in any danger of pushing academic standards too high in the United States; in fact, even those institutions with the greatest selectivity in admissions have probably not achieved student bodies of the intellectual maturity and capacity of some European institutions, although our students are superbly able.

We at M.I.T., despite our high selectivity, feel that we are not admitting as many superior students as we would like, and I suspect other institutions of high selectivity feel the same way. . . . In the last decade we have nearly doubled in size, with most of the increase coming at the graduate level. M.I.T. has thus responded to the growing needs of the nation for scientific man power. At present we are trying to stabilize our enrollment, in order to permit our resources to catch up with our growth and thus to insure the continuing excellence of our education. . . . The ultimate capital cost of adding one additional student is in excess of \$50,000. The President's Committee observes that "*if an unwelcome choice were required between preserving quality and expanding enrollments, then quality should be preferred because it would do neither individuals nor the nation any good to masquerade mass production of mediocrity under the guise of higher education.*" . . .

Financing Higher Education

The Committee recommends that each existing institution, if it has not already done so, undertake immediately an intensive and imaginative study of its long-range goals and plans. . . .

In planning our financial program and the development of our campus buildings, we are now

1. Formulating a five-year budget so that we can properly anticipate changing financial needs.

2. Preparing a carefully integrated development program for the next 10 years.

3. Starting, with the assistance of competent architects and city planners, a searching study of building planning and land utilization. We do this not only to have a carefully thought-through plan for our own needs but also properly to relate our planning to the program of planning and urban renewal in the city of Cambridge.

4. Proceeding with a long-range program to improve student housing facilities, with the benefit of the comprehensive study of student housing made in 1956 by the Corporation Committee on Student Housing (the Ryer Committee). . . .

In discussing the recommendations of President Eisenhower's Committee, I have of course omitted many items. Some of the report is not relevant to M.I.T., and the Institute has many problems and interests which are not reflected in the report. For example, the Committee does not deal with the great questions of educational content. Nevertheless, I hope that this discussion throws light on how Institute policy accords and differs with the findings of this important and thoughtful report by representative American citizens; and I hope that this M.I.T. report is in the spirit of the recommendation "*that institutions give appropriate publicity, aimed at the general public, to their major sources of educational and general income and objects of expenditure so that there will be more awareness of the real costs of education . . .*"

The Year In Review

From a long list of important advances, modifications, and achievements of the past year, I select the following for special mention:

1. The trend toward flexibility in our undergraduate programs is reflected in modifications made in several undergraduate curricula. The Department of Chemical Engineering has adopted a new program which greatly increases the choices of subjects available to students by replacing many requirements with electives in the upper years. The new Course vests in the student greater responsibility for planning his future; it allows him increased flexibility in preparing for graduate specialization in a variety of fields, including nuclear engineering and biological engineering as well as chemical engineering.

The Civil and Sanitary Engineering Department is experimenting with a curriculum which introduces students as early as their sophomore year to serious professional problems; we thus seek to relate the basic analytical work . . . to its professional context.

The Electrical Engineering Department has continued its development of a greatly changed and upgraded undergraduate program in electrical engineering, involving the introduction of more science into the curriculum. The Department has introduced a new Course, Electrical Science and Engineering, for a highly selected group of students. This new curriculum is of five years' duration and represents an effort to integrate undergraduate and graduate work in a Course unbroken at the end of four years. It leads to the bachelor of science and master of science degrees, awarded simultaneously.

The Mechanical Engineering Department has established a new optional curriculum in the field of nuclear

power engineering in co-operation with the Nuclear Engineering Division of the Department of Chemical Engineering.

The Physics Department has devoted special attention to making undergraduate laboratory work more effective and to providing more opportunities for independent and creative work.

In the School of Humanities and Social Studies, a Political Science Section has been formed to afford a better integration of our teaching and education in this field in the core curriculum.

2. We have widened and deepened our educational and research activities in the earth sciences. Recognizing that meteorology is growing more quantitative and thus requires more and more preparation in the physical sciences, our Department of Meteorology has abandoned its undergraduate curriculum and now concentrates on graduate study. The undergraduate curriculum in the Department of Geology and Geophysics is now well planned to provide an undergraduate education broad and basic enough to prepare students for specialization in meteorology and other earth sciences at the graduate level. Finally, the Departments of Meteorology and of Geology and Geophysics have combined to sponsor the Laboratory of Earth Sciences, of which Professor Henry G. Houghton, '27, is director. This Laboratory will widen and co-ordinate our educational and research activities in geology, geophysics, meteorology, and oceanography. All of these activities are strengthened by a co-operative arrangement with the Woods Hole Oceanographic Institution.

3. Under the joint sponsorship of the Schools of Architecture and of Humanities and Social Studies, elective courses are now available in the visual arts. These will provide an opportunity for students actually to participate in studio work and will also include lectures, seminars, and field trips, to gain an intimate acquaintance with and understanding of the visual arts.

4. The School of Industrial Management has steadily moved away from the descriptive teaching of the components of business toward analytical approaches to the problems of management.

5. Under the direction of Professor Jerrold R. Zacharias, assisted by Professor Francis L. Friedman, '49, the Institute has drawn together from both colleges and secondary schools a group known as the Physical Science Study Project, to plan a new approach to the teaching of physics in the secondary school. New experiments and experimental equipment are being devised, with emphasis on simplicity and inexpensiveness. The educational motion picture is being searchingly restudied, and efforts are being made to give it new effectiveness and integrity as a teaching tool. A new text is being written and supplementary manuals on various aspects of physics are being prepared for publication. . . .

Some Educational Problems and Opportunities

Throughout the Institute there is ferment, self-examination, and experimentation, especially in the field of undergraduate education; and as our curriculum changes and evolves, we encounter a range of difficult problems. A growing number of engineering students wish to increase the content of physics and mathematics in their engineering programs. It appears that we are moving toward a condition where engineering undergraduates will normally study an average of three years of physics and mathematics. (Some of our Courses now prescribe only two.) This growing emphasis on basic science reflects the trend toward a more fundamental and generalized undergraduate curriculum in engineering. . . .

Sponsored Research

Through the various projects of the Division of Sponsored Research and of all our campus laboratories, we provide unusual educational opportunities for graduate students to participate, under faculty supervision, in research at the frontiers of their respective fields. Faculty participation contributes to the timely introduction of new developments into the academic curriculum, and members of the full-time research staffs associated with these sponsored research projects receive advanced training under outstanding leadership before assuming professional responsibilities in government and industry.

We try always to make as sure as we can that this association brings the maximum benefit, through the years, to the educational process. We are accordingly selective in the research we undertake. The work must hold promise of importance, and it must be in fields in which the Institute has exceptional competence and which are relevant to our mission. . . .

A significant part of Dr. Killian's report is devoted to the changes in personnel that have occurred at M.I.T. during the past year. In nearly every case, the more important of these changes have already been reported in the pages of *The Review*, and are therefore omitted in this condensation.

An important part of President Killian's report dealt with new research and educational facilities, and is presented in condensed form as follows:

New Facilities

During the year, the Institute moved forward with important new additions to our resources for education and research. Alumni Day, June 10, witnessed the dedication of two of these facilities: the Karl Taylor Compton Laboratories and the Computation Center. . . .†

In order to supplement existing housing facilities for women students at 120 Bay State Road in Boston, we have converted one section of Bexley Hall on Massachusetts Avenue into an apartment dormitory. The Institute can now provide housing for 50 women students.

In addition to completed projects, three other major facilities are now under construction. This winter will witness the completion of a \$2.4 million nuclear reactor, which will be one of the most versatile constructed anywhere for research and teaching purposes. Under the direction of Professors Manson Benedict, '32, and Theos J. Thompson, it will give new impetus to our rapidly growing program of study in the field of nuclear engineering.†

This spring, ground was broken for a six-billion-electron-volt accelerator for basic research in high-energy particles. This facility, located on the Harvard campus, will be built, managed, and utilized jointly with Harvard University. It will be completed in about four years, at a cost of \$6.5 million.

This fall we will begin construction of the David Flett du Pont Memorial Athletic Center on the West Campus. The du Pont Memorial Center will provide 12 new tennis courts, an \$800,000 building adjoining the Armory to provide supplementary facilities for inter-collegiate sports at M.I.T., six squash courts, facilities for women, and a locker room for faculty members. These facilities have been made possible by the \$1 million bequest of David F. du Pont, '56, who met tragedy in an automobile accident in 1955.

(Concluded on page 78)

†A description of these new additions to M.I.T. teaching and research will be found beginning on page 29 of this issue.

Second Alumni Officers' Conference

Some 350 alumni officers and M.I.T. officials review recent progress in the Institute's educational and research programs and discuss ways in which Alumni can further M.I.T. objectives

A TECHNOLOGY REVIEW REPORT

ACTIVITIES of the school year opened at M.I.T. on September 6 and 7 with a conference planned especially for Class and Club Officers, Alumni Fund Officers, Honorary Secretaries, and members of the Educational Council. This second Alumni Officers' Conference (the first was held in the fall of 1955) was designed especially to bring these groups of "working Alumni" up to date on M.I.T. plans and programs. Approximately 350 men attended the two-day meeting which reviewed recent progress in education and research at the Institute and featured a series of workshop sessions on topics of special concern to each of the attending groups.

Speakers on the general program included: Gilbert M. Roddy, '31, President of the M.I.T. Alumni Association; James R. Killian, Jr., '26, President of M.I.T.; Vannevar Bush, '16, Chairman of the M.I.T. Corporation; and George R. Harrison, Dean of the School of Science. Other Alumni who played leading roles in the conference included: William L. Taggart, Jr., '27, Chairman of the Conference Committee; D. Reid Weeden, Jr., '41, Vice-president of the Alumni Association; Whitworth Ferguson, '22, Avery H. Stanton, '25, and Alf K. Berle, '27, — all members of the Alumni Fund Board.

Speaking on educational progress at M.I.T. on Friday morning were: J. A. Stratton, '23, Chancellor; H. Guyford Stever, Associate Dean of the School of

Engineering; and John T. Rule, '21, Dean of Students. On Friday afternoon, President Roddy spoke on Alumni participation in M.I.T. activities and President Killian reviewed some of the current problems which M.I.T. must solve. Saturday morning was devoted to a discussion of some recent developments in research at M.I.T. Speakers included: George R. Harrison, Dean of the School of Science; Charles S. Draper, '26, Head of the Department of Aeronautical Engineering and Director of the Instrumentation Laboratory; Nathaniel H. Frank, '23, Head of the Department of Physics; and Jay W. Forrester, '45, Professor of Industrial Management. The addresses were given in the lecture hall of the new Karl Taylor Compton Laboratories described in this issue (page 32).

In addition to the workshops and general speaking sessions there were also a number of social events, including a reception early on Friday evening at the home of President and Mrs. Killian. A highlight of the conference was the presentation of Bronze Beaver Awards "for distinguished service" to several clubs and individuals at the dinner on Friday. Recipients of 1957 Bronze Beaver Awards were:

1. Bryant Nichols, '07, who, as reunion chairman of his Class, led it to an outstanding record on the occasion of its 50th reunion;

2. Orville B. Denison, '11, who, as Class Agent



Photos — M.I.T. Photographic Service

The "welcome sign" is out at Kresge Auditorium as Alumni officers, honorary secretaries, and others start the school year with serious discussion of M.I.T.-Alumni relations (left). Those taking part in the session Friday morning, September 6, are (left to right): J. A. Stratton, '23, Chancellor; William L. Taggart, Jr., '27, chairman of Conference Committee; John T. Rule, '21, Dean of Students; and H. Guyford Stever, Associate Dean of the School of Engineering.



Conference attendees serve themselves lunch in the Campus Room of the Graduate House.

since 1940 and Class Secretary since 1911, has established a record of service without peer;

3. Donald B. Gilman, '32, who, as reunion gift chairman of his Class, led it to an outstanding record on the occasion of its 25th reunion;

4. The M.I.T. Club of Northern New Jersey for its study of the factors affecting the growth and influence of an M.I.T. Club;

5. The M.I.T. Club of Oklahoma for its outstanding regional conference which was hailed as "one of the most significant meetings in Tulsa history";

6. The Alumni of Cranston, R.I., who, under the chairmanship of William H. Barker, '32, achieved a perfect record of participation in the 1957 Alumni Fund.

7. The Alumni of Rochester, N.Y., who, under the chairmanship of Frederick J. Kolb, Jr., '38, established an outstanding record of participation in the 1957 Alumni Fund.

President Roddy served as master of ceremonies at the dinner held in Walker Memorial on September 6, at which Dean Harrison was the after-dinner speaker. Dr. Harrison spoke in a light and amusing vein on "Around the World in 27 Years with the M.I.T. Alumni Association." Although Dean Harrison's talk consisted largely of a series of anecdotes drawn from his contacts over the years with M.I.T. students, Faculty, and Alumni, it concluded with a tribute to the

late Karl T. Compton and a coda of appreciation for the warm and loyal support of Alumni. Indeed, all of the members of the Faculty and Administration who spoke at the conference stressed the importance of alumni support, but none more eloquently than Dr. Killian who said:

"We at M.I.T. are grateful for your presence here and for the loyal and helpful impulse which brings you to these biennial meetings. I speak for the Institute community — Faculty, Administration, students — in thanking you for what you individually and collectively are doing for M.I.T. and in acknowledging the many ways which Alumni assist the Institute and further its mission."

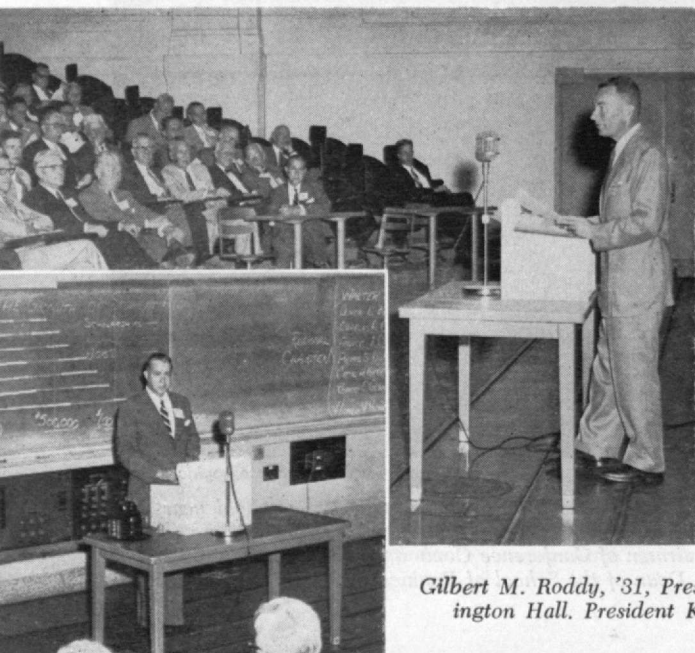
The conference formally opened at 10:00 A.M. on Friday morning with a two-hour session in Kresge Auditorium on the general subject of "Educational Progress at M.I.T." William L. Taggart, Jr., '27, chairman of the Conference Committee, presided, and the speakers were J. A. Stratton, '23, Chancellor, who discussed the general principles governing the dynamic and evolving educational policies of the Institute; H. Guyford Stever, Associate Dean of the School of Engineering, who reviewed recent developments in engineering education at M.I.T.; and John T. Rule, '21, Dean of Students, who spoke on the role of nonacademic factors in a modern educational program.

Educational Progress at M.I.T.

In his opening remarks, Dr. Stratton sketched in brief the total M.I.T. educational picture and outlined a number of academic developments and operating policies which other speakers later elaborated upon in some detail in later sessions of the two-day meeting. He placed major emphasis in his discussion on evolving changes in organizational structure and administrative philosophy at M.I.T. and on the current plan of undergraduate education in areas relating to our technological way of life.

Early in his remarks, Dr. Stratton emphasized that M.I.T. is, first of all, an institution for undergraduate education. One of the great problems currently besetting undergraduate educational policy, he pointed out, is the need to maintain intellectual quality in the face of growing demands and pressures for more engineers. But if M.I.T. is to maintain its high educational standards, Dr. Stratton reported, the Administration believes that the Institute cannot grow much in numbers at the present time. For the undergraduate program this means stabilization near the present total enrollment of about 3,600. In a program of stabilized undergraduate enrollment the Institute cannot admit all who wish to enter as freshmen, but it can absorb more upperclass transfer students than now apply.

Dr. Stratton next reviewed the factors in our technological age that have accounted for an increase in the time required to achieve competence in professional work and which have stimulated the vigorous growth of the M.I.T. Graduate School. It now takes many more years of study to become proficient in a technical profession than in the past. In science careers, a doctorate is now practically indispensable.



Gilbert M. Roddy, '31, President of the Alumni Association, addresses Alumni officers in Huntington Hall. President Killian (lower left-hand insert) later addresses the same gathering.

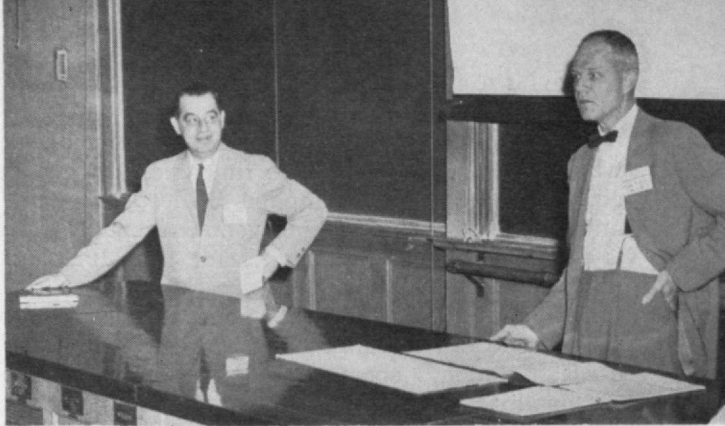
At M.I.T. there has also been in the last decade a marked increase in doctoral work in engineering and in post-doctoral work in science.

The Institute's Graduate School enrollment consequently has grown to about 2,500, or a little more than 40 per cent of our total enrollment. As with the undergraduate school, it is clear, Dr. Stratton said, that M.I.T. faces a problem of limiting the growth of the Graduate School.

In summarizing his discussion of M.I.T. enrollment problems, Chancellor Stratton emphasized again that the Institute has a greater national responsibility to maintain the high quality of the M.I.T. educational program and the high competence and character of the men it produces than merely to train large numbers of students. From this point of view, he concluded, an analysis based on considerations of space, facilities, financial resources, and instructional quality suggests an optimum enrollment figure for M.I.T. of between 6,000 and 6,500 students at all levels.

In discussing the organization of academic administration at the Institute, Dr. Stratton noted first of all the continuing trend toward decentralization. This trend has been necessitated, in part, by the sheer magnitude and range of activities which characterize today's M.I.T. The Institute can achieve its educational objectives only by giving a real degree of freedom and autonomy to each school. In a top-notch institution, he added, there must be also a certain degree of autonomy in the various departments, and a consequent flexibility of curriculum. Of course this autonomy could go too far, but strength is gained, he said, from a unity of objective and a flexibility of approach.

Dr. Stratton then went on to analyze some of the specific aims and current problems of undergraduate education. Because of the changing status of the bachelor's degree, he said, we must alter our traditional concepts of the objectives of undergraduate education. We must accept the fact that a rising percentage of those whose interests are principally technical must go on to graduate school. As a consequence, we must also realize that undergraduate edu-



Thomas P. Pitré, Associate Dean of Students (left), and J. Samuel Jones, Assistant to the Director of Student Aid, conduct a workshop session on student scholarships.

cation can no longer be largely vocationally oriented nor developed only along purely technical lines. In general, Dr. Stratton concluded, we are coming to accept the concept that the function of undergraduate education is to provide a foundation for professional life centered on science and its applications.

Finally, Chancellor Stratton sketched the pattern of M.I.T. education as a fabric of four interwoven strands:

1. The first strand is spun out of the basic sciences of chemistry, physics, and mathematic. Physics and mathematics especially, he noted, are playing an increasingly important role in the third and fourth year curricula of many courses. He emphasized that it is difficult to deal creatively with many new fields without a thorough grounding in the basic sciences and added that the substance of many courses is changing much faster in this direction than mere catalogue names and numbers might indicate.

2. The second strand is composed of the humanities and social sciences. These studies have become an integral part of the education of the engineer and scientist who must have a clear comprehension of the social, intellectual, and historical context in which science operates. Without such a background, the scientist and engineer often can neither fully dis-

D. Reid Weedon, Jr., '41, Vice-president of the Alumni Association (left), Whitworth Ferguson, '22 (center), and Avery H. Stanton, '25, who are members of the Alumni Fund Board, take part in workshop sessions.



charge his responsibilities nor completely measure up to his opportunities.

3. The third strand is the professional component, which is becoming ever more fundamental in character. This is the area of applied science (electronics and thermodynamics would be good examples) which is filling an increasingly important place between science and engineering.

4. Finally, there are the nonacademic factors which contribute so importantly to the development of each student's character and the growth of his personality. This strand is composed in no small measure of the out-of-class contacts each student has with members of the Faculty and with other students; it is the sum of experience derived from student community living and from varied activities generally classified as "campus life." It is an area, the Chancellor concluded, to which the Institute is currently devoting more of its time and concern than ever before.

Following this opening talk, Deans Stever and Rule each elaborated upon some of the points to which Dr. Stratton had alluded in his Chancellor's-eye view of the academic program.

Engineering Education

In discussing "Progress in Engineering Education at M.I.T.," Dean Stever began with a brief analysis of the current supply and demand for engineering graduates. He noted that, through the efforts of many organizations and individuals, the shortage of engineering graduates is not now as acute as it has been in recent years. There has been a gratifying increase in the number of graduates in the United States

with more than 26,000 awarded degrees last year. But it is difficult to predict how the balance between supply and demand will shift in the near future. "Despite this uncertainty," Dean Stever added, "we are confident that there will continue to be a healthy demand for the quality product which comes from M.I.T.'s School of Engineering."

Against this general background Dr. Stever went on to discuss statistics which indicate M.I.T.'s position in engineering education. He said:

"At M.I.T., the enrollment in engineering was about 3,700 students during the year 1956-1957. This represented 61.5 per cent of the Institute's student population. Of these 3,700 students, about 1,350, or 37 per cent, were graduate students. When compared with figures from previous years, a continued shift to graduate education in engineering at M.I.T. is clearly indicated.

"Looking at numerical data from the rest of the country one sees that M.I.T.'s numerical contribution to engineering education in the country now falls primarily in the graduate field." In the years from 1950 to 1956, 12.6 per cent of all the doctor's degrees in engineering in the United States were given by M.I.T. In 1956 the number was slightly higher, 13.8 per cent. Of course the percentage differed from department to department. The Metallurgy Department produces about 30 per cent of the doctor's degrees in its field in the country; the Aeronautical Engineering, Chemical Engineering, Electrical Engineering, and Mechanical Engineering Departments vary in percentages from 10.3 to 14.3 per cent, and the Civil and Sanitary Engineering Department awards 5 per cent of the doctor's degrees in its field. M.I.T. also holds a corresponding commanding posi-

Buffet supper in Walker Memorial has all the trimmings to delight the eye and tongue, including upright beaver carved from block of ice. Head table guests at buffet dinner were (left to right in lower insert): Donald P. Severance, '38, Henry B. Kane, '24, Robert M. Kimball, '33, William L. Taggart, Jr., '27, Joseph J. Snyder, '44, Gilbert M. Roddy, '31, George R. Harrison, J. A. Stratton, '23, Dwight C. Arnold, '27, Vincent T. Estabrook, '36, B. Dudley, '35, and Joseph E. Conrad.



tion in awarding the master's and the engineer's degrees. Relatively, M.I.T.'s contribution in the undergraduate field is only about one-fifth of its graduate contribution. "Of course," he emphasized, "the statistics concerning the numerical ratings of schools do not take into account quality."

In discussing undergraduate education in engineering, Dr. Stever first noted that the increasing demands on the student's time for the basic sciences, engineering sciences, humanities and social studies, as well as the participation in extracurricular affairs, must naturally crowd something out of the undergraduate years of education.

"Though both students and Faculty are more efficient in using their time, the increasing efficiency has not been able to keep up with the increasing demands on time. Time must be taken consequently from the professional engineering subjects.

"At present neither the study nor the debate on this topic has been concluded," he emphasized. "Individual Faculty members and engineering departments place differing emphases on different facets of engineering education. The engineering departments are now introducing changes in their curricula in an attempt to improve the undergraduate course. The fact that the changes are quite different from department to department," he felt, "insures a healthy vigorous attack on the problems. In addition, differences are to be expected, for the individual engineering departments serve industries and professional communities which differ markedly in their natures."

Dr. Stever concluded his remarks by giving some examples of the interesting trends in engineering education which have been put into effect over the last few years at M.I.T.

In the Department of Electrical Engineering, he reported, for example, a new curriculum (called Electrical Science and Engineering) has been under development. The work in this option includes more higher mathematics and physics than the normal Electrical Engineering courses and the Electrical Engineering Co-operative Course by the extent to which it emphasizes the electrical science aspects of the core curriculum subjects. Course is normally of five years' duration with the degree of bachelor of science and master of science awarded simultaneously.

The Department of Chemical Engineering, he cited as another example, has introduced a significant change in the policy of its undergraduate program which has also received Faculty approval and will begin to operate this fall. Here the primary purpose is to increase the choice of subjects available to the students by replacing many specified requirements with electives in the upper years of the undergraduate course. It is hoped the new approach will place greater responsibility on the student for planning his future, and will allow him more flexibility in preparing for graduate specialization in a variety of fields, such as chemical engineering, nuclear engineering, or the biological sciences.



Association President Gilbert M. Roddy, '31, makes presentation of bronze beaver awards to individual Alumni, Alumni clubs, and Alumni groups. (At top): Bryant Nichols, '07, is receiving award for work in connection with the 50th reunion of his class. Center panel shows Mr. Roddy making awards to Stuart G. Stearns, '39, and Donald H. Spitzli, '27, for a study (made by the M.I.T. Club of Northern New Jersey) of the factors affecting the growth and influence of an M.I.T. Club. (Bottom): Frederick J. Kolb, Jr., '38, receives award from Mr. Roddy on behalf of the Alumni of Rochester, N.Y., who established an outstanding record of participation in the 1957 Alumni Fund.

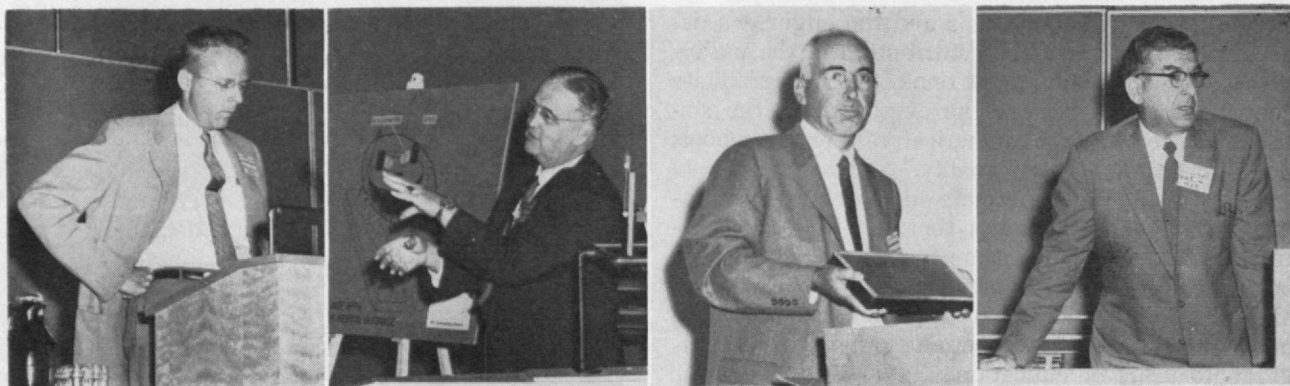


The Student of Today

Following Dr. Stever's remarks, Dean Rule discussed some of the nonacademic factors important to the total educational process. He developed his discussion around the observation that academic progress is often highly colored by personal factors. He also noted as a general proposition the inescapable obligation of an educational institution to assume its proper share of responsibility for the character development of its students.

"As we have become increasingly aware of the social responsibility of the engineer and the scientist in our modern American life," Dean Rule said, "we at M.I.T. have more and more tended toward the concept that it is our responsibility to develop the breadth and the character of our students as well as to see that they have adequate academic training. Indeed, it is quite clear that if a student is completely ruthless, acquisitive, and enamored only of personal power and gain, a first-rate academic education makes him more of a menace than an asset to our society."

He continued with a brief "personality portrait" of today's student as seen from inside the Dean's door. "In anything I say," Dean Rule cautioned, "I do not



Faculty members who participated in the addresses in the lecture hall of the Compton Laboratories on Saturday, September 7, were (left to right): Jay W. Forrester, '45, who spoke on systems technology and management; Charles S. Draper, '26, who reported on research on inertial guidance; George R. Harrison, who demonstrated a 10-inch diffraction grating recently ruled at M.I.T.; and Nathaniel H. Frank, '23, who told about recent changes in the physics curriculum.

want to imply that our students, or at least a great majority of them, are not intellectually curious, and do not hope to become Einsteins or to make the definitive discovery in whatever field they may choose. Certainly most of them as entering freshmen have these dreams. Some of their other basic outlooks, however, have changed quite radically over the prewar period, and these changes are a large factor in some of our problems." The changes to which Dean Rule referred are by no means unique to M.I.T. students. They are, in fact, characteristic of those young persons who were born during the depression, attended grammar school during World War II, and who reach maturity in our present era of inflation. To a greater extent than ever before, these young people are influenced by dwindling parental and school authority, by loosened church ties, by dependence on external forces (rather than internal resources), such as motion pictures, radio, and television, and by the greater mobility which the automobile makes possible.

Dean Rule noted particularly the following points: First, young people today tend to seek "certainty of future, rather than brilliance of future." He reminded his audience that today's freshman was a "Pearl Harbor baby" whose impressionable years were spent in a very insecure world. Such students focus attention on the kind of job they are going to get on graduation and on how much money it will pay rather than on the service they can perform as professional men. One serious result is that this type of student is insulated, to a degree, from the effects the Humanities program is intended to provide.

Many a student, Dean Rule continued, has a marketing mind. Such a student tends to see education chiefly as a purchasable commodity. When he pays tuition he expects delivery of knowledge or access to lucrative positions. His attitude toward the rules and regulations of the Institute and toward the academic program is that of buyer-to-seller, in a contractual situation which tends to de-emphasize individual initiative and responsibility.

Dean Rule also commented on the fact that M.I.T. now has many more married students than was usual prior to World War II. He emphasized that today even a sizable number of undergraduates are married before they take their degrees. This increase in the

number of married students, Dean Rule added, contributes toward the focus on the practical and on the immediate phases of life.

"All of these observations concerning today's students," Professor Rule concluded, "can be summed up by saying that the state of mind of young men in America today is quite different from what it was before the war, that around the solid core of students whom we get who have intellectual curiosity and enthusiasm to learn and the genuine desire to be worthwhile, are grouped a number of peripheral tendencies which give us a larger number of less desirable traits in our students than I think we used to have. The increasing number of students with what we consider poor attitudes makes it of great importance that we discharge to the utmost of our ability our responsibilities to develop that side of education which can improve these attitudes, and this can be done chiefly outside the classroom.

"To describe the things we do about this, I shall divide the problem into two parts. First, I want to look at the things we do to free the student to do better academic work. That is, the things we do to help him with his emotional problems, his worries about money, his sense of insecurity, and all of those things which directly affect his ability to work well and to learn well. This whole area, for simplification, I will designate as a counseling area.

"I want to say at once that we are all of us opposed to 'holding a student's hand,' to 'spoon-feeding him,' to being oversympathetic. We believe that a student should stand on his own two feet and that he should be held responsible for his actions and for his academic record. This does not bar our giving him every aid to achievement.

"We know very little about the learning process, but anyone who has followed recent efforts in the psychology of learning, studies in the interrelations between emotions and learning, between motivation and learning, cannot fail to be deeply impressed by the improvement in academic performance achieved by skillful and professional efforts in the counseling area. When we accept students into the Institute who have the intellectual capacity to do Institute work, we are much more efficient if we remove their blocks to learning and help them to achieve their full poten-

(Continued on page 50)

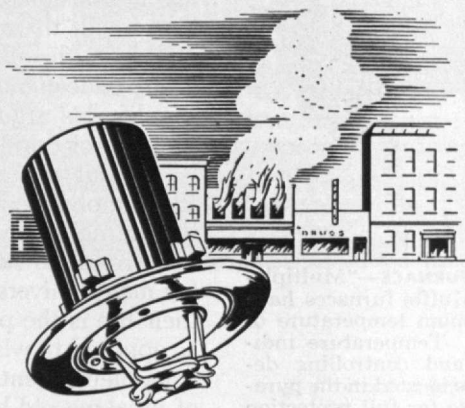
BUSINESS IN MOTION

To our Colleagues in American Business . . .

Should a fire break out in many of the modern stores, office buildings and institutions today, the excited cries of "Fire!" "Fire!" "Fire!" will have barely died before the fire is under control. For, located in the ceiling of these structures, and barely visible, are the automatic sprinklers that go into action in case of fire. And mighty important fire watchers they are, too. Although unnoticed and unattended for years, they must be able to go into immediate action, fast, and without fail.

A vital part of this sprinkler is the body. A leading manufacturer of these sprinklers used to make these bodies of cast bronze. But in order to obtain the close tolerances required, the casting had to be excessively machined. Also, in order to assure fool-proof operation after installation, each casting, after machining and prior to assembly, had to be pressure tested. Due to porosity many of the castings failed and the number of rejects became prohibitive.

Engineers of the sprinkler manufacturer consulted with Revere's Technical Advisory Service and as a result Revere was asked to forge the sprinkler body.



After extensive testing, the forging of Revere Brass was selected . . . because it was found that closer tolerances with a minimum of machining were possible, elimination of sand holes did away with rejects entirely, pressure testing was no longer necessary and the better appearance of the forging made a more sales-appealing product. On top of this the rate of assembly was nearly doubled by the use of Revere Brass Forgings. Overall savings amounted to more than 20% of the former cost of the sprinkler body.

Here you have still another example of Revere cooperating with the customer in selecting the right metal in the right form to do the best job with the greatest economy . . . be it aluminum, copper or any one of their alloys.

Not only the copper and brass industry but practically every industry you can name is able to cite similar instances. So we suggest that no matter what your suppliers ship you, it would be a good idea to take them into your confidence and see if you cannot make a better product at lower costs by specifying exactly the right materials.



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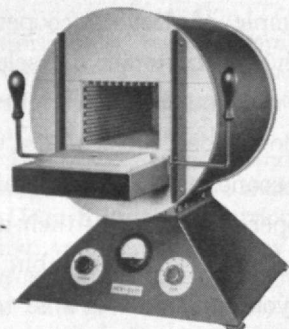
IN STEP with tomorrow's stepped-up DEMANDS

LABORATORY FURNACES

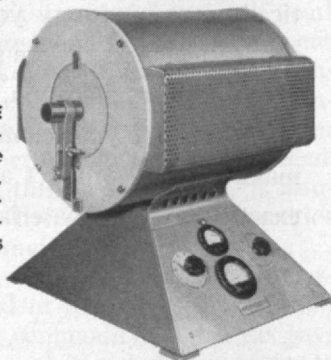
COMBUSTION TUBE FURNACE — Hinged tube furnaces are available in various sizes with temperature ranges to 1800°F or 2200°F.



MUFFLE FURNACE — "Multiple-Unit" Muffle furnaces have a maximum temperature of 1850°F. Temperature indicating and controlling devices are located in the pyramid base for full protection and visibility.



HIGH TEMPERATURE TUBE FURNACE — Temperatures to 2600°F. can be reached in this furnace. Other Hevi-Duty laboratory furnaces have maximum temperatures as high as 3000°F.



HEVI-DUTY ELECTRIC COMPANY

MILWAUKEE 1, WISCONSIN

Harold E. Koch, '22, President
Elton E. Staples, '26, Vice President
Chester Meyer, '36, Assistant Secretary

ALUMNI OFFICERS' CONFERENCE

(Continued from page 48)

tiality through understanding and skillful direction than we would be were we to allow every individual to stand or fall on what he produces in the classroom only, without helping him when we know he has the ability."

Dean Rule then outlined in brief detail some of the elements of the M.I.T. counseling system. He noted we now have a Dean for Counseling, Dean William Speer, "who knows full well that the secret of good advising is never to advise, but to listen and illuminate and discuss the consequences of possible actions." He stressed also the successes of the Freshman Advisory Council, which consists of some 70 staff members who are advisers to 15 freshman students each. In addition Dean Rule reported, the Medical Department's psychiatrists, whom he called skilled "psychiatrists of the normal" are helpful in shifting attitudes within students which are detrimental to their progress. Finally, he paid tribute to the athletic coaches who, he said, have great insight into young men, who understand them and can help them with their problems.

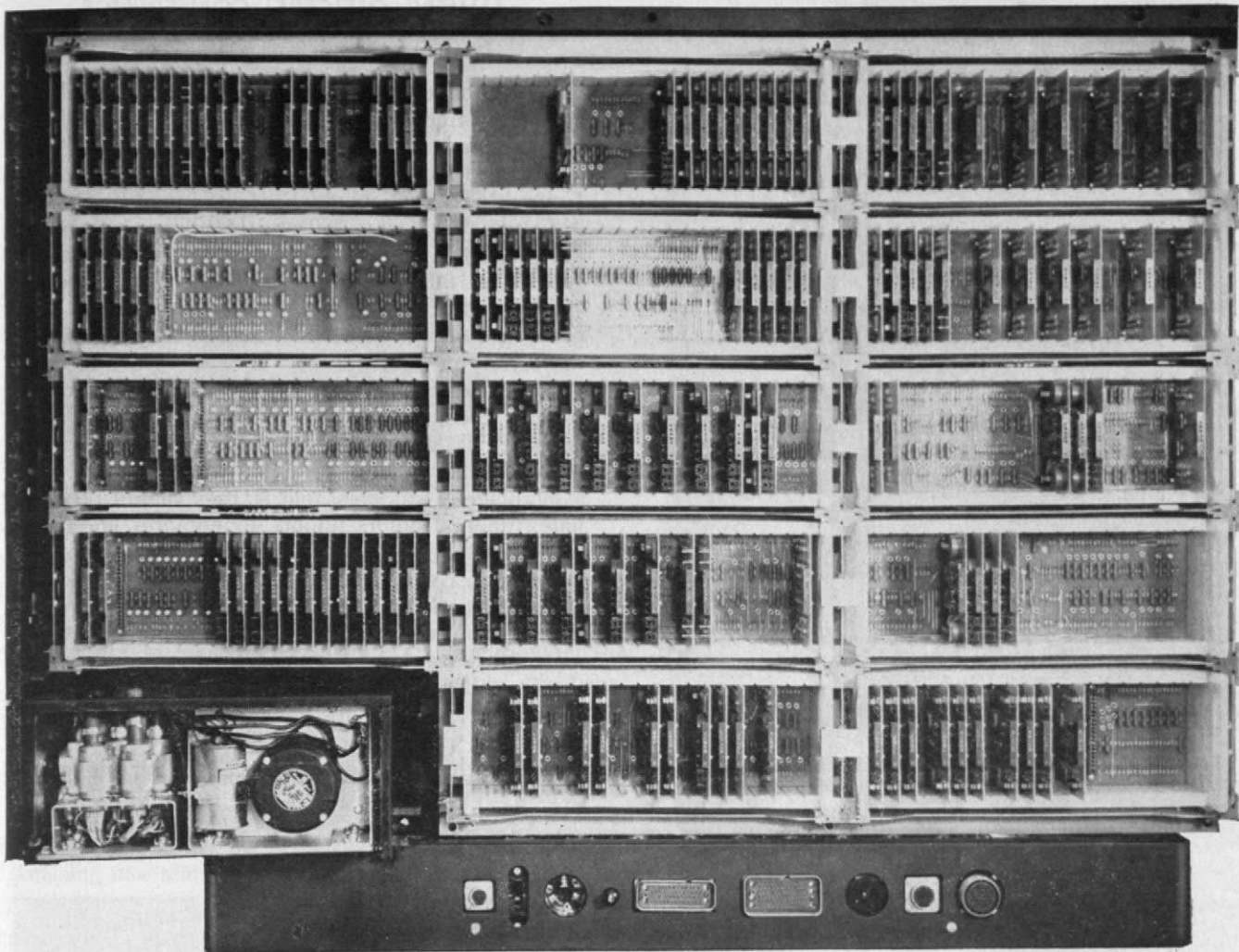
Following his discussion of the Institute's counseling responsibilities, Professor Rule turned to what he termed "the most important element in the whole picture" — the philosophy that a residential college is an educational structure in all of its parts. To simplify his argument, he discussed this philosophy in terms of dormitories.

"One of the central facts of college life," Dean Rule emphasized, "is that it coincides time-wise with the normal period in a young man's life when he revolts from his family and becomes himself. In fact, for many university students the central problem of their life is the problem of finding out who they are as opposed to who their parents are, and of escaping from their parents into themselves. Thus it is a period of breaking old habits and old outlooks and of forming new ones.

"Very, very much of the acquiring of new outlooks occurs in a very short time when the student first arrives at the university. But it does take some time to gel, and consequently we are afforded an opportunity to structure it along constructive lines. Thus the atmosphere in a dormitory, the way it is conducted, its physical structure, the kind of government it has, the conversations that occur in it, the attitudes of the students in it, are of crucial importance to young students — particularly in the first month or so of their living there. If we subscribe to the thesis that everything that occurs to a student in a university is part of his education, then a dormitory is very rich indeed in opportunities to help educate the students living in it.

"Ideally a dormitory should have a rich tradition of outlooks and practices which are passed on from year to year by mature individuals with longer tenure than the undergraduate student. Students in a dormitory should have high morale and loyalty to the house, established by traditions of a high order in a stimulating intellectual and cultural existence. Life in a dormitory should be well mannered; opportunities

(Continued on page 52)



The Role of **PRODUCT ENGINEERING** in Systems Work

It has become characteristic of modern weapons systems that they are required to operate under severe environmental conditions, as well as to meet stringent weight and space limitations. Moreover, the complexity of many of these systems poses additional difficult reliability problems, while at the same time the increasingly critical consequences that depend on the proper functioning of the typical system logically call for a *higher* degree of reliability than previously achieved. The same is true of certain electronic systems for industrial applications, such as the Ramo-Wooldridge digital control computer, some of whose design features are shown above.

Meeting all of these requirements is in large part the responsibility of product engineering. Generally speak-

ing, product engineering starts with a system or subsystem at the breadboard stage and transforms it into the final product, which in addition to meeting all of the requirements previously stated, must be practical to manufacture and to maintain. Such creative productizing requires the development of ingenious mechanical design features, a thorough knowledge of circuit design and component reliability, and a broad familiarity with materials and manufacturing processes.

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(Continued from page 50)

for good conversation with Faculty, foreign students, and interesting and stimulating Alumni should be at a maximum."

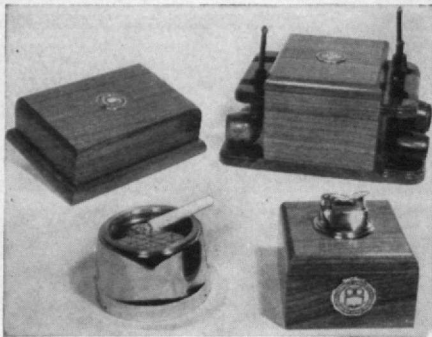
Professor Rule then related the report of the Ryer Committee (Technology Review, June, 1956, page 413; July, 1956, page 486) to this discussion.

"The Ryer Committee found in studying dormitory systems in other universities," Dean Rule recalled, "that the ideal loyalty group—the one which is most easily governable and which most easily commands the loyalty of its members—is of the order of 50 or 60, very nearly the size of most of our fraternities. Ideally, then, the best dormitory should be of the order of 200 students divided into four groups, say over four floors. Such groups should be a vertical assemblage of students, that is, they should be graduate students, seniors, juniors, sophomores, and freshmen. And the whole house should be led by a mature staff member who is constantly striving to develop all of the educational possibilities of his house. We are working toward this concept. The Ryer Report recommended breaking the dormitory system down to these smaller areas and supplying dining rooms for each area where sit-down, family-style meals could occur.

"Although we have not gone very far along the path I am outlining," Dean Rule concluded, "we are
(Continued on page 54)

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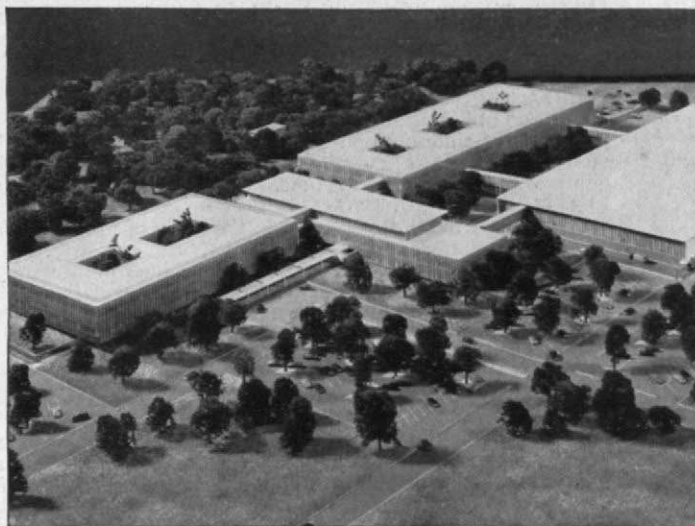
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Raymond A. Rich, President, Avco Manufacturing Corp.



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(Continued from page 52)

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well aware of the possibilities involved. We hope to work through to a dormitory system of which the students will be wholeheartedly proud, which they will find stimulating and broadening, in which they will feel they are members of a community of scholars which has unity and loyalty toward mature ideals and goals."

Following Dean Rule's remarks, which completed the Friday morning session on "Educational Progress at M.I.T.," the Alumni adjourned to the Campus Room of the Graduate House for lunch. Then, promptly at 2:15 P.M., the afternoon session convened within the familiar walls of Huntington Hall (Room 10-250) where major addresses on "The Challenge of the Future" were given by Association President Roddy and by Institute President Killian.

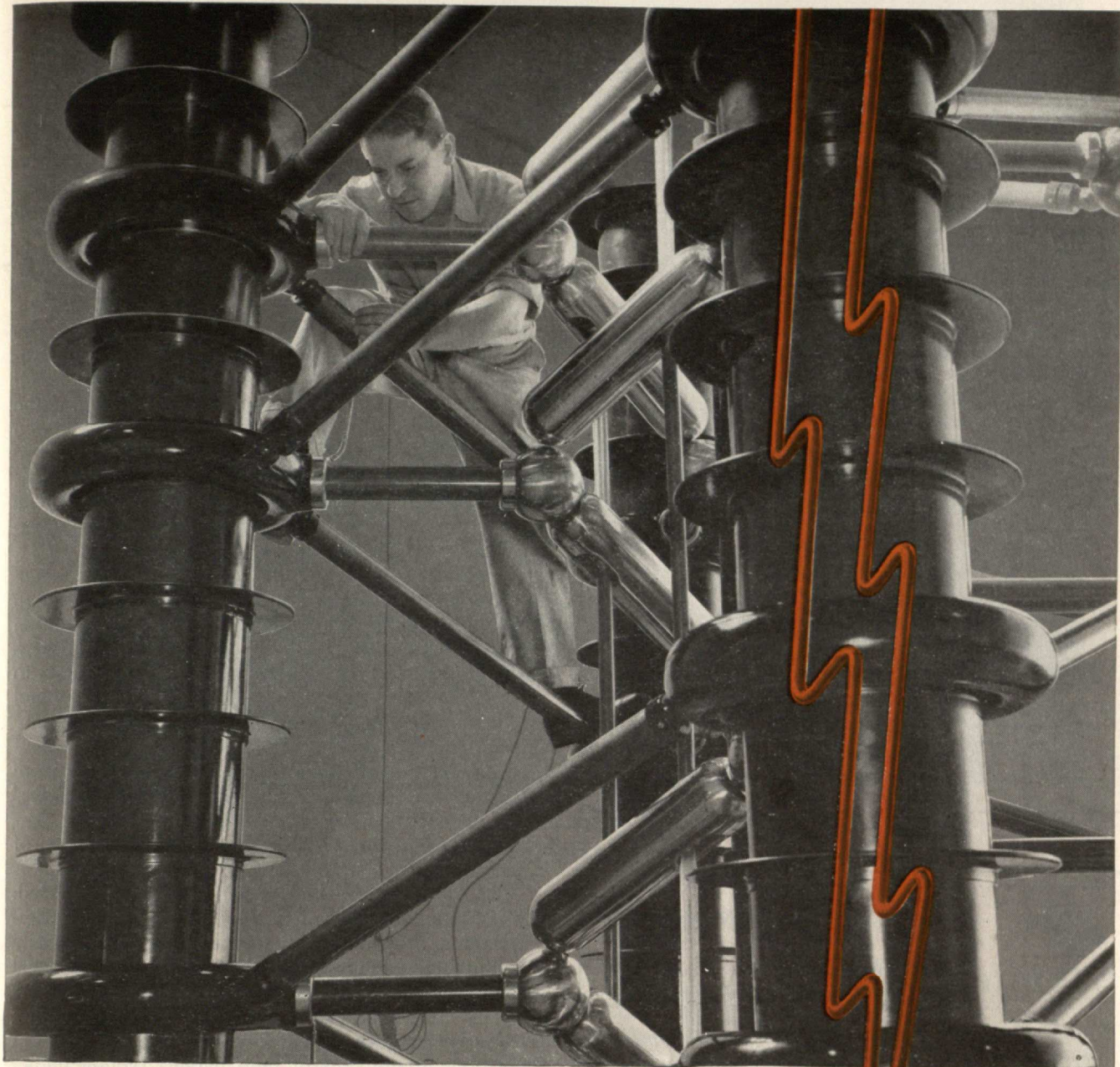
Challenge of the Future

Dr. Killian gave an inspired address. Although touching on many topics, his talk stressed two specific points of great current concern in which the Institute needs Alumni help. The first point discussed the need for Alumni to help many outside the Institute to gain a better understanding of the broad resources of M.I.T. and to see more clearly the aims and objectives of its educational program.

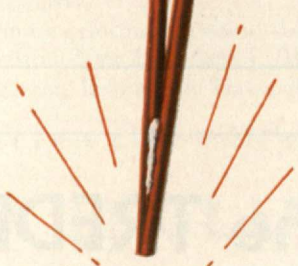

"The image of M.I.T. in the minds of many people," Dr. Killian said, "is quite out of date. Too many people still think of M.I.T. as being narrow and highly specialized in its education and illiberal in its outlook. Some even think of the Institute in terms of a vocational school or a technical institute. It is important to correct this image for many reasons, not the least of which is the adverse effect it has on the kinds of students who apply for admission to the Institute. We want to broaden the range of types who apply for entrance here. High intellectual competence must be common to all of these types. We want students who can become successful leaders of men as well as those who will be brilliant specialized research scholars. The two are, of course, not mutually exclusive. We want students of outstanding personal qualifications as well as outstanding intellectual capacity. As Professor Thresher comments in his recent report to the President, 'The reputation of the Institute must rest upon the social effectiveness of the graduates and the broad objectives of our selection are to maximize the number of Alumni who will make an impress on the life of their times.'

"It is important to recognize, too," Dr. Killian added, "that no single type is best for the wide range of educational programs at the Institute. Civil Engineering, as our Visiting Committee in this field recently emphasized, may well need students of different qualifications than the more mathematically inclined student who is desirable in physics. We educate architects, economists, managers, as well as engineers and scientists. M.I.T. students go into many different professions after completing their undergraduate careers here, and we like to think of our un-

(Continued on page 56)



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(Continued from page 54)

dergraduate program as having the breadth and the opportunity to prepare men to be effective citizens in a wide range of career activities. . . ."

"The second area in which we need Alumni help," Dr. Killian continued, "is in the effort M.I.T. will be making this fall to complete a fund for raising Faculty salaries at the Institute. The Alumni Fund Board will make the improvement of Faculty salaries one of its main objectives for 1957-1958. To supplement the Fund Board effort, a more intensive drive will also be made to meet the goal through a special gifts program." Dr. Killian also emphasized that all Alumni can help in furthering general understanding of the need for the fund and in telling the M.I.T. story to potential friends of the Institute.

"Inadequate salaries for teachers is, of course," Dr. Killian said, "not a deficiency confined to M.I.T. The recent report of the President's Committee on Education Beyond the High School, released on August 11, gives major emphasis to the 'need for qualified teachers' as the critical problem facing colleges today. In its analysis of the financial problems which the nation faces in financing higher education, the report gives top priority to the provision of adequate salaries to retain and compensate present staff adequately, and to attract additional needed numbers of high-ability teachers. It suggests as a broad goal gradual increase of salaries 'no less than double the present average level on an over-all national basis in five to ten years.' The urgency to increase salaries is indeed acute, particularly for our institutions holding positions of leadership.

"M.I.T. is much better off," Dr. Killian added, "than many institutions in the competition for scholars among institutions, its salaries being substantially better than average among the colleges. But its real competition is with industry and professional careers outside of education. Many young men graduating from the Institute with advanced degrees now obtain positions at the start of their careers paying higher salaries than their experienced teachers receive. The discrepancy between industrial and academic salaries is greater in the fields of engineering and science than almost any other, and this gap threatens to divert too

(Continued on page 58)

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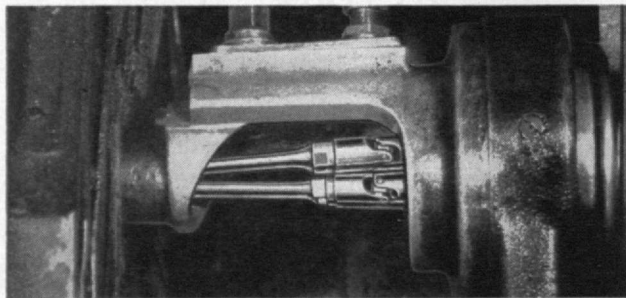
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(Continued from page 56)

many able young engineers and scientists from electing academic careers when they might otherwise be interested. If talented young people are to be attracted into academic careers, such conditions must be remedied. The quality of our institution during the decades ahead can be seriously diminished unless we succeed now in making academic careers more attractive.

Significant Step

"As I announced on Alumni Day, M.I.T. now has a chance to make a significant step ahead in its Faculty compensation. Alfred P. Sloan, Jr., '95, through the Alfred P. Sloan Foundation, Inc., has offered to make a grant to M.I.T. of up to \$1,250,000 toward a \$5,000,000 fund for Faculty salaries, provided the Institute obtains \$3,750,000 from other sources. The Corporation has accepted the challenge of this timely offer of Mr. Sloan's, and in the past few months we have quietly secured in gifts and pledges more than a million dollars toward the three and three-quarter million dollars that we must raise. With this encouraging start, we now undertake a special and concentrated drive to secure the remaining two and three-quarter million dollars which will insure the full amount from the Sloan Foundation and thus will enable the Institute to meet the total goal of a five-million-dollar Faculty Salary Adjustment Fund.

"We are now getting organized to complete this special gifts program. A strong committee, under the chairmanship of Walter Beadle of the Class of 1917 and a life member of the Corporation, is leading the final effort. Associated with Mr. Beadle on this committee as regional vice-chairmen will be the following Alumni: Oliver L. Bardes, '21, of Cincinnati; Charles A. Chayne, '19, of Detroit; Francis J. Chesterman, '05, of Philadelphia; Cecil H. Green, '23, of Dallas; Robert C. Gunness, '34, of Chicago; Homer V. Howes, '20, of St. Louis; H. W. McCurdy, '22, of Seattle; Antonio H. Rodriguez, '21, of Havana; William C. Sessions, '26, of Cleveland; David A. Shepard, '26, of New York; William J. Sherry, '21, of Tulsa; Raymond Stevens, '17, of Cambridge; William L. Stewart, Jr., '23, of Los Angeles; and Irving W. Wilson, '11, of Pittsburgh. Many other Alumni are also assisting in the drive.

"It is our hope and ambition," Dr. Killian concluded, "that once the urgent need for this Faculty Salary Adjustment Fund is clearly understood, our goal will be readily reached."

Alumni-Institute Relations

Dr. Killian had been introduced by Association President Roddy who had spoken earlier on the character and quality of the relationship between the Alumni Association and the Institute.

Mr. Roddy began his remarks by discussing the structure of the Alumni Association, by noting that there are about 48,000 living M.I.T. Alumni eligible

(Continued on page 60)

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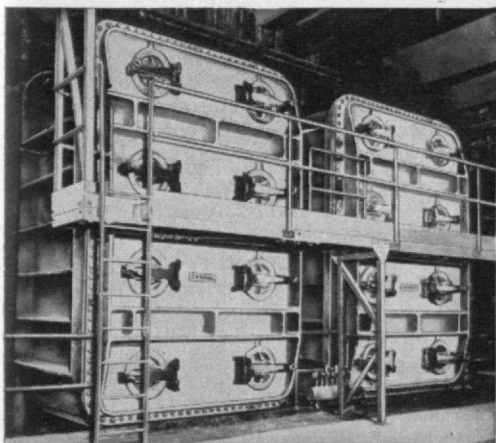


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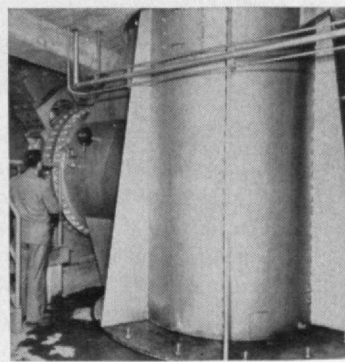
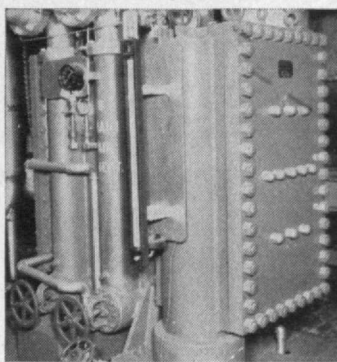


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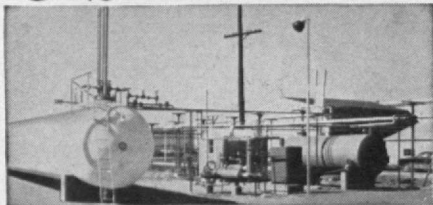
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(Continued from page 58)

for membership in the Alumni Association, and added:

"For many of our Alumni the Institute has become a lifetime activity. About half the Faculty and staff of the Institute have M.I.T. degrees. About 60 per cent of the Departmental Visiting Committee members are Alumni. The Educational Council is composed entirely of Alumni and still others are members of the M.I.T. Corporation. Moreover, about half of all active Alumni have contributed to the Alumni Fund at some time. But M.I.T., as one of the top half dozen most influential educational institutions in the country, deserves the active and continuing support of all Alumni."

Mr. Roddy then outlined the objectives of the Alumni Association for the 1957-1958 year as follows:

1. A more productive Alumni Fund.
2. Plans to make greater contributions to the effectiveness of student life at the Institute.
3. Sponsorship of three Regional Conferences—one in Pittsburgh on Saturday, December 7, 1957; one in Washington, D. C., on Saturday, March 1, 1958; and a third in the spring at a city yet to be named.
4. Co-operation with the M.I.T. Administration in planning for the Institute's centennial celebration in 1961.
5. Improved communication between the Associa-

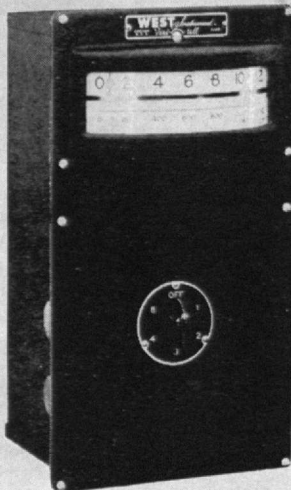
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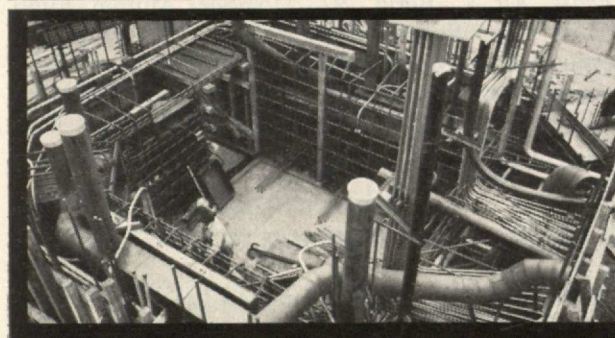
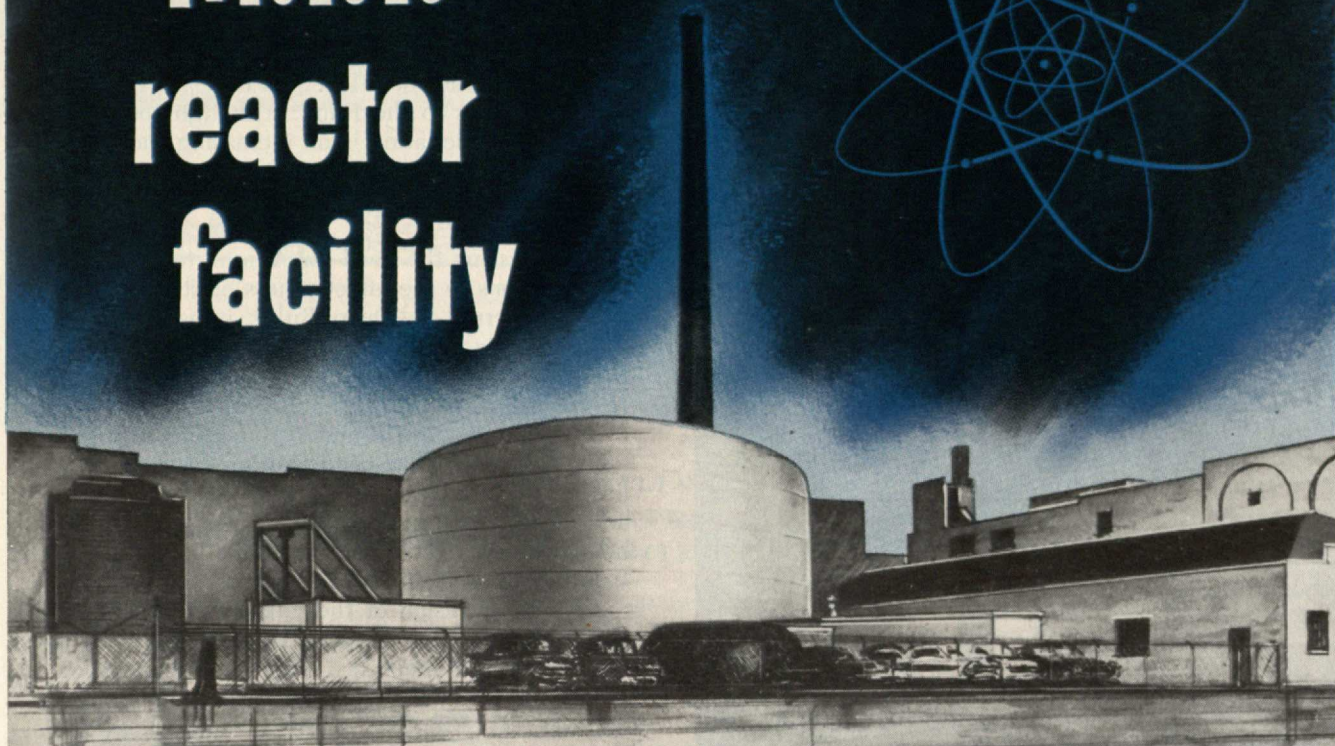
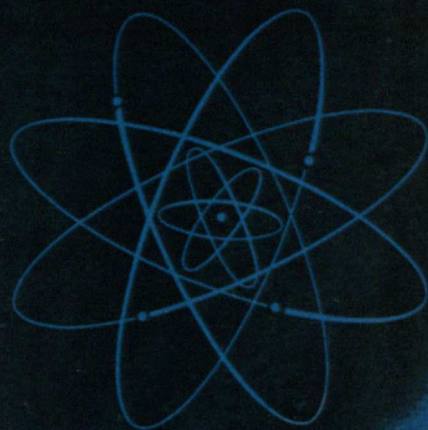
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ALUMNI OFFICERS' CONFERENCE

(Continued from page 60)

tion and the Institute, its Alumni, and other persons.

Mr. Roddy then discussed the first two objectives in brief detail.

Mr. Roddy also reminded his audience that over the past two years the Association has instituted a Regional Solicitation plan, in which personal contacts are made at the local level, to increase the number of contributors to the Fund. Although the emphasis in regional solicitation is on increasing the degree of participation, Mr. Roddy said he "could see no objection to increasing the amount of the average contribution."

In discussing the need for Alumni to make greater contributions to the effectiveness of student life, Mr. Roddy referred to Dean Rule's remarks about the differences in attitudes between today's students and those who had attended M.I.T. prior to World War II. He suggested that Alumni can help the student body develop more sound and mature attitudes by taking an active interest in such aspects of student life as the graduate council, athletics, publications, and dormitory and fraternity social groups. After all, he concluded, it is in its educational mission that the Institute finds its highest purpose.

At the conclusion of the talks in Huntington Hall (Room 10-250), the general session adjourned for a series of panel meetings. Topics and chairmen included the following: *Regional Solicitation*, Avery H. Stanton, '25, Member, Alumni Fund Board; *Class Agents*, Alf K. Berle, '27, Member, Alumni Fund Board; *Class Special Gifts Solicitation*, Whitworth Ferguson, '22, Member, Alumni Fund Board; *Educational Council and Honorary Secretaries*, Thomas P. Pitre, Director, M.I.T. Student Aid; *Club Officers*, Donald P. Severance, '38, Secretary-Treasurer, Alumni Association.

Research at M.I.T.

These panel meetings completed the business sessions of the Friday program. The social activities and award ceremony conducted on Friday evening have been reported earlier in this account. The Saturday morning meeting, at which D. Reid Weedon, Jr., '41, Vice-president of the Alumni Association, presided, was devoted to discussion and demonstrations of "Examples of Research at M.I.T."

Speakers at this session were: Jay W. Forrester, '45, Professor of Industrial Management, who discussed "Systems Technology and Management"; Charles S. Draper, '26, Professor of Aeronautical Engineering, Head of that Department, and Director, Instrumentation Laboratory, whose title was "Inertial Guidance"; George R. Harrison, Dean of the School of Science, speaking on "The New Precision"; and Nathaniel H. Frank, '23, Head of the Department of Physics, who spoke on "The Laboratory for Nuclear Science and the Research Laboratory of Electronics: Their Contribution to Education at M.I.T."

Dr. Forrester showed how data processing and other technological developments are related to the

(Continued on page 64)

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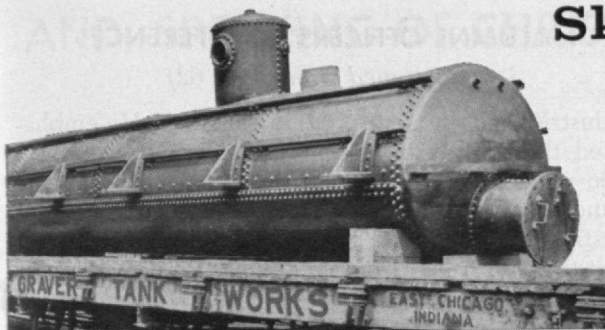
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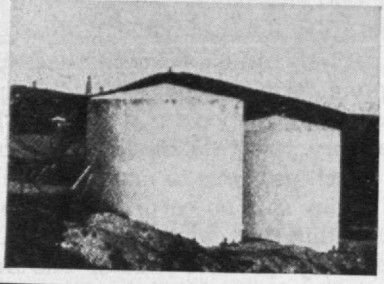
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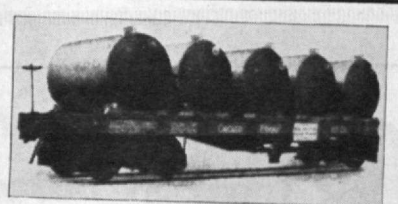
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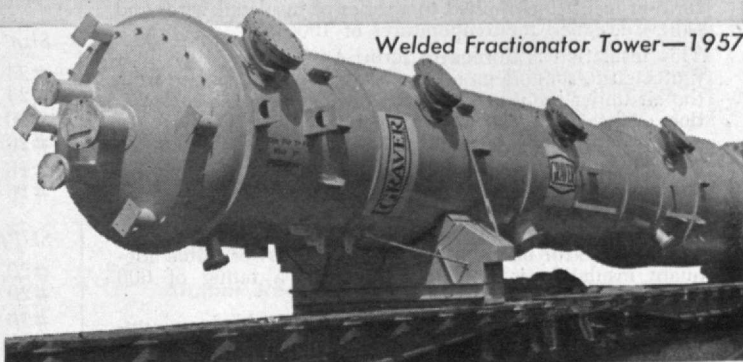
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(Continued from page 62)

industrial management program at M.I.T. He emphasized that the Institute's new I.B.M. 704 computer (see page 30, this issue of The Review) is an outstanding present-day tool for simulating certain industrial and economic model systems, and reported that the M.I.T. 704 will be employed in a large-scale attempt to use electronic computing techniques to understand and to aid the management decision-making process. He concluded his remarks with some provocative examples of how new management developments may in turn affect engineering education and practice. Professor Forrester's remarks complemented those given in his article on page 417 of the June, 1957, Review.

Next, Dr. Draper gave a brief demonstration-lecture on the principles of inertial guidance, the new jam-proof form of navigation for airplanes, missiles, and ships developed by the M.I.T. Instrumentation Laboratory. Some details of this gyro-controlled system, which promises to make it possible to pilot any craft to any spot on earth by using only inertial elements within the vehicle itself, were reported on page 488 of the July, 1957, issue of The Review.

Dean Harrison exhibited a 10-inch diffraction grating which had just been made by a revolutionary new ruling technique. The mechanical difficulties to be overcome in precisely cutting a large number of parallel grooves — about 15,000 to the inch — for an op-

(Continued on page 66)



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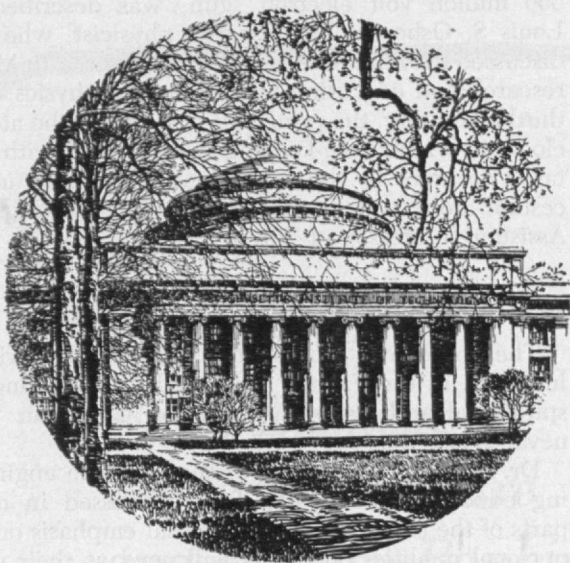
#20 Gauge	.150"	.80	.70	.65	.60
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ALUMNI OFFICERS' CONFERENCE

(Continued from page 64)

tical grating 10 inches long are immense. But by using a combination of interferometry and feed-back servomechanisms, Dr. Harrison has been able to produce gratings 10 inches or larger with precision not previously attainable, so that resolution is considerably increased. It appears that the new technique is about to open a new era of spectrographic research.

Dr. Frank discussed the many contributions of the Laboratory for Nuclear Science and the Research Laboratory of Electronics to the educational program of the Institute. He noted, for example, that over the past 11 years (essentially the life span of L.N.S. and R.L.E.) 271 of a total of 323 doctoral men in physics have been involved in the research programs of the two laboratories. He also cited instances of increasing interplay between the research laboratories and the undergraduate curriculum. Not only are the staffs of the laboratories devoted to the education of students, Dr. Frank concluded, but they are creating a happy union of research and teaching that may set a pattern for institutions of higher learning in the rest of the nation.

At the conclusion of these discussions of some current examples of M.I.T. research, laboratory visits were scheduled to the Computation Center, the synchrotron, and the atomic clock. Sample operations on the new I.B.M. 704 computer were explained by

Frank M. Verzuh, '46, Assistant Director, Computation Center. At the synchrotron the operation of this 350 million volt electron "gun" was described by Louis S. Osborne, '50, research physicist, who also discussed the relationship of this accelerator to M.I.T. research and education in high-energy physics. In a third laboratory, the principles and uses of the atomic clock, in which time-keeping is controlled with fantastic accuracy by the oscillations of electrons in the cesium atom, were explained by John G. King, '50, Assistant Professor of Physics.

Faculty Club Luncheon

The conference closed on Saturday noon with a luncheon at the Faculty Club and a concluding inspirational address by Corporation Chairman Vannevar Bush, '16.

Dr. Bush reviewed some of the trends in engineering education which had been discussed in other parts of the program. He put special emphasis on the personal qualities engineers will need as their work becomes more professional in its functions. "Engineers of the future," said Dr. Bush, "will need especially to have wide interests, coupled with a new flexibility of mind and a broader perspective in judgment."

In delineating the characteristics of the professional man, Dr. Bush stressed his belief that central to

(Concluded on page 68)



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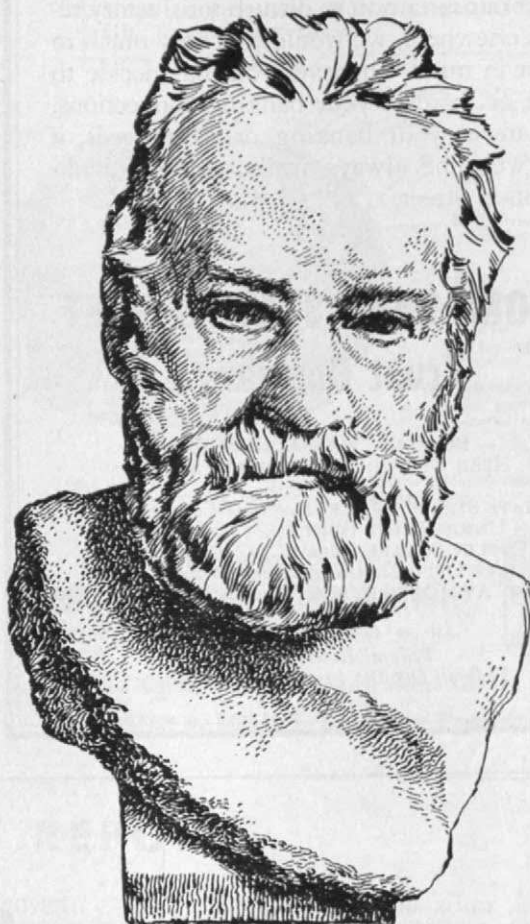
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every idea of professional work is the thought that the professional person ministers to his fellow man. He ministers not servilely but with dignity and pride and out of his labors comes a new civilization. The professional man, Dr. Bush added, not only speaks with authority in his own field, but is also able to work unselfishly in harness with others. While he insists on an adequate and proper return for his labors, he values the intellectual aspects of his life more highly than the financial.

Dr. Bush wove part of his remarks around an anecdote about a business man he had recently met in a barbershop. This young man, he noted, was in business for himself and making about \$70 a week—a net which Dr. Bush thought was pretty good, considering that the business was a paper route and the proprietor was only 11 years of age. This youngster confided that he intended to go to M.I.T. and hoped, ultimately, to become a contractor. "Now M.I.T. wants youngsters," Dr. Bush continued, "who not only have high intellectual capacity but who are also willing and able to do good, conscientious work. These young men should be devoted to an ideal, should have courage, ambition, and resourcefulness." In closing the meeting on this theme, Dr. Bush urged all Alumni to keep their eyes open for youngsters of this kind—just as he promised to keep his eyes on the young man in the barbershop.

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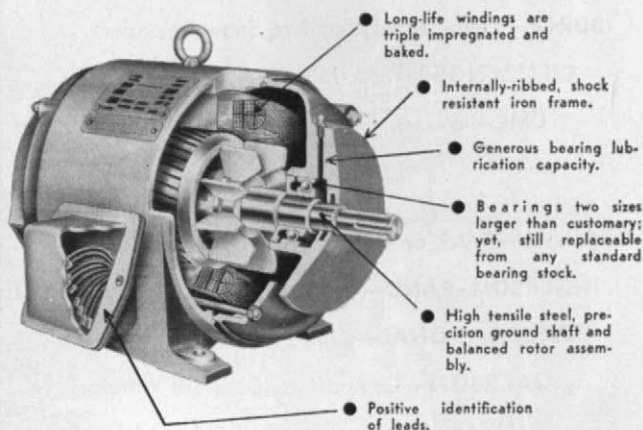
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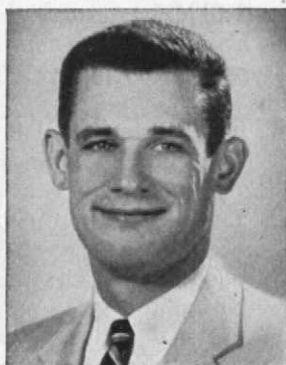


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EDUCATION: Tulane University, School of Business Administration.

MILITARY: U.S. Air Force (Intelligence Officer)
August '52—July '54. Korea Service.

PREVIOUS EMPLOYMENT: Summer jobs during school.

REMARKS: Son of a former Governor of the State of Louisiana and son-in-law of a New York Life agent, William Boyer followed the latter's lead and joined New York Life in September, 1955 under a special sales trainee program. This was Mr. Boyer's first full-time job—coming immediately after his consecutive stints at Tulane University and with the U.S. Air Force. A year later he became a full-fledged agent. His intense interest in life insurance has led him to completion of 2 advanced life insurance underwriter courses since becoming a New York Life agent. And his first-year sales record of \$1,121,447 is a further indication of this young man's outstanding success potential with New York Life.

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KARL COMPTON — SCIENTIST

(Continued from page 28)

Although Karl Compton was a physicist, this was to some extent a matter of chance. He started out tentatively to be a biologist, and it was only the accident of being given an assistantship in the Physics Department, when the one he had been promised in biology fell through, that led him toward the more basic science. In fact, for one year as a graduate student he was an instructor in chemistry, but then he went into physics for good. He also pulled his brother Arthur into physics, for when Arthur went to college he was going to become an engineer. However, he liked physics, and he came one day to his older brother Karl with the problem of what he should become. Karl said, "Do you want to be the kind of person who looks figures up in a handbook, or do you want to be the kind of person who puts the figures into the handbook?" Arthur became an industrial physicist as a sort of compromise, but eventually found his forte in basic research like Karl.

Karl Compton, the physicist, Director of the Experimental Laboratories of Physics at Princeton, and in 1929 the newly made head of the Physics Department there, did not really want to become the president of M.I.T., but he had a very strong sense of duty. He deliberately sacrificed his scientific career to make a much greater contribution, one which affected the progress of science and of many allied fields far more profoundly than could ever have been the case if he had remained a scientist of any kind.

So I think it appropriate today not to talk about Dr. Compton's contributions to the national scientific scene as a beloved elder statesman, but rather of those he made as a scientist who took great joy in the experimental approach to unraveling the secrets of nature.

I first met K.T. in his Princeton laboratories just about a third of a century ago. He was then 38, and had been a full professor at Princeton for some six years. He was already one of the big names in the new field of electronics, which has since blossomed to become one of America's greatest industries. He had great drive and great enthusiasm and became the founder of a school of physicists, composed of Ph.D.'s who did their thesis work under him, that is still scattered widely about the country unto the third and fourth generations. By 1930, when he

(Continued on page 72)

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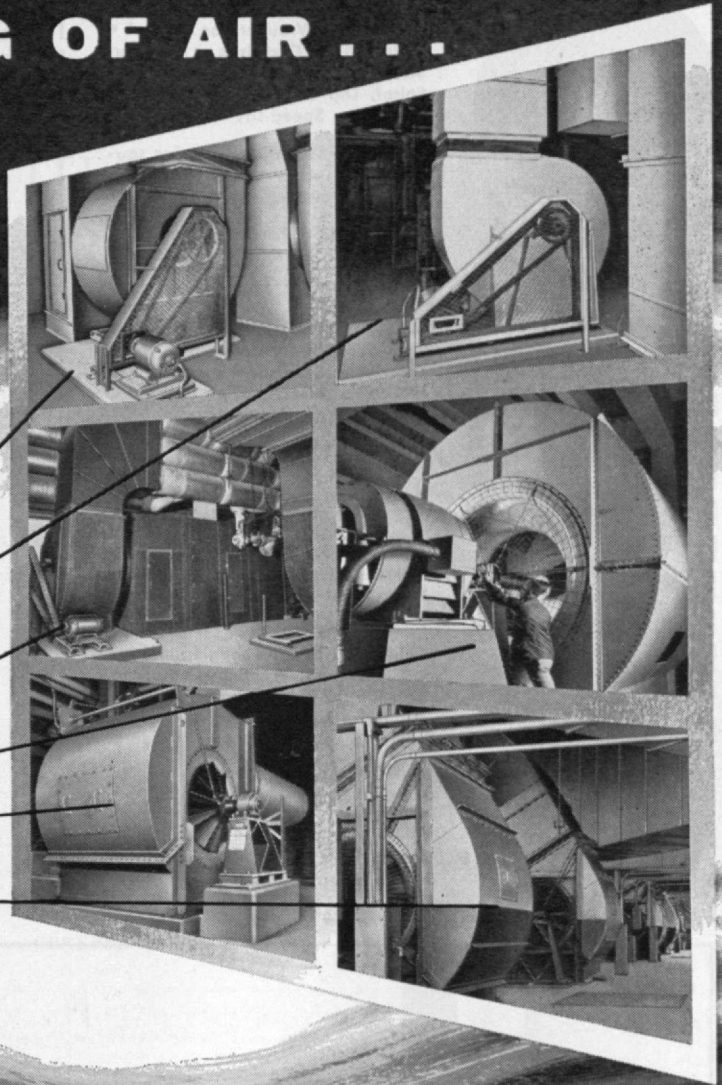


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KARL COMPTON — SCIENTIST

(Continued from page 70)

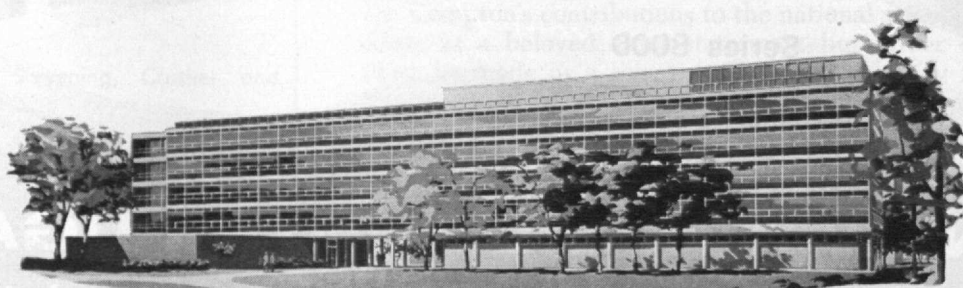
came to M.I.T., K.T. had published more than 100 technical papers in fields of physics ranging from photoelectric thresholds to spectroscopy in the extreme ultraviolet.

Young Karl's first scientific article appeared in the *Physical Review* in February, 1910. Its title was "A Study of the Wehnelt Electrolytic Interrupter." His doctor's thesis had to do with the measurement of the velocities of electrons emitted when ultraviolet light falls on a metal plate. In 1913 he wrote a paper entitled "Note on the Velocity of Electrons Liberated by Photoelectric Action" which was published in the *Physical Review*. Then the papers began to come thick and fast. That he entered into the same kinds of friendly but animated controversies that modern physicists carry on is shown by two papers that I find in his list of publications. The first is "Temperature Coefficient of Contact Potential," and the second is "Temperature Coefficient of Contact Potential. A Rejoinder."

Picking the year 1924 as a random example, I find 13 scientific papers published by K.T., alone or with colleagues. Most of them had to do with low-voltage arcs, striated glow discharges, and excited atoms. In 1925, there were again 13. By the time he came to M.I.T. as president, he had published 108 papers. Ten or a dozen more scientific papers appeared in the two or three years following his induction, but

(Continued on page 74)

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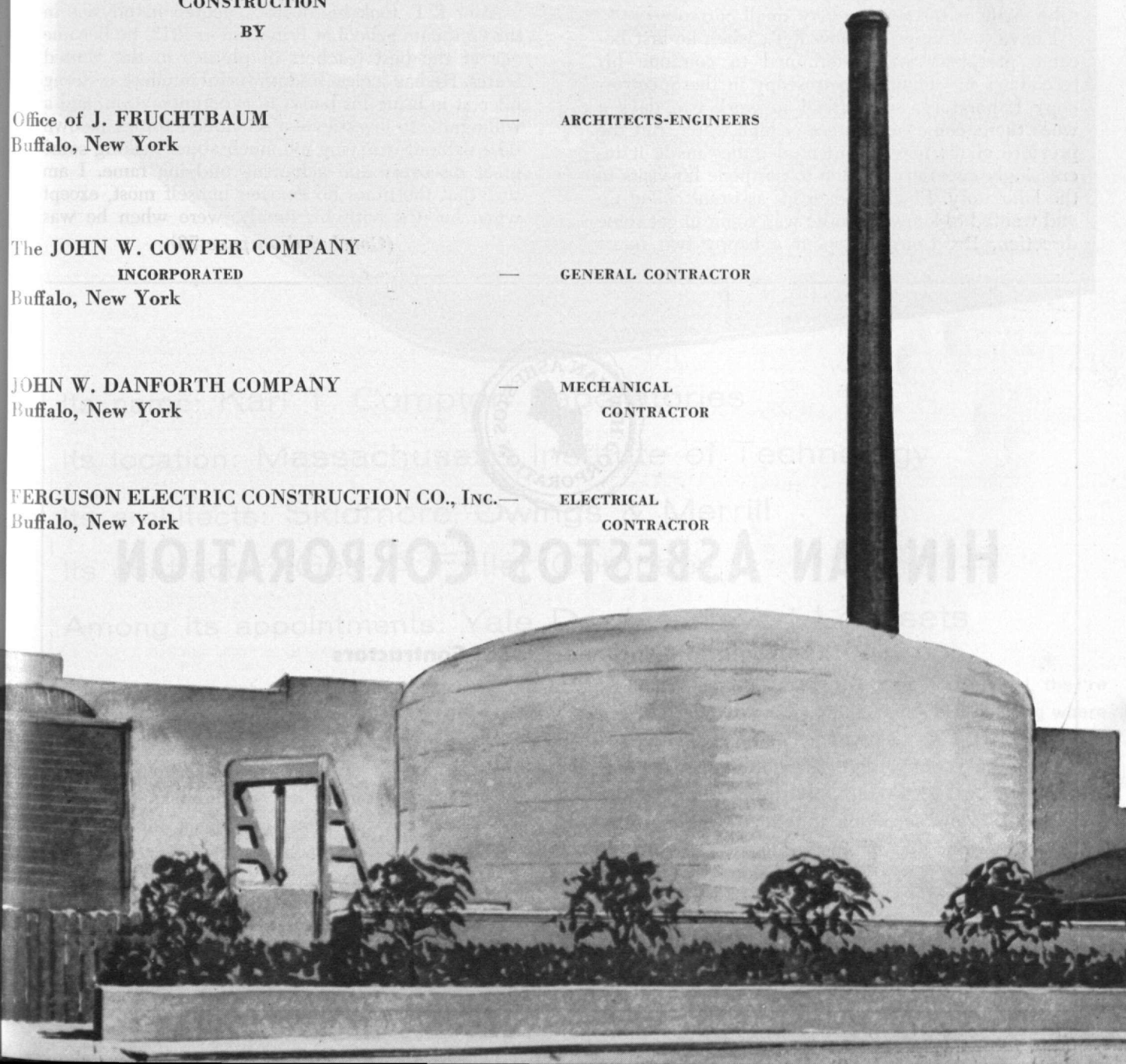
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KARL COMPTON — SCIENTIST

(Continued from page 72)

soon the trials of the administrator began to take their toll. His writings gradually became more general, and we find him in July of 1932 writing on the "Long-Range Budgeting of Public Capital Expenditures" and on "M.I.T.: Its Past, Present, and Future." But paper number 378, his next to the last publication, which appeared in 1953 was "Establishment of the Radiation Laboratory at M.I.T." So he held his great interest in laboratories to the end.

With his brother Arthur, Karl invented the Compton Electrometer, a very sensitive modification of the then widely used quadrant electrometer, which they first described in 1919. This instrument came into fairly wide distribution although its use was limited by the fact that the instrument company that was given responsibility for its commercial production constructed it rather poorly, and by the fact that it was soon supplanted by more convenient vacuum-tube methods for reading very small currents.

I have told elsewhere how K.T., when he first became president, was determined to continue his researches in vacuum spectroscopy in the Spectroscopy Laboratory, and agreed to work two days a week there, come committees or high water. But the pressure of his new presidential duties made it increasingly necessary for him to postpone his visits to the laboratory. Finally, when his assistant called up and wanted to know when he was going to get some direction, Dr. Compton spent a happy two hours

cleaning out the insides of a mercury condensation pump with kerosene, until in the middle of the afternoon an urgent telephone call took him back to his office, and this was the last the laboratory saw of him as an active participant. This was not of his own choice, however, and during the remainder of his life he got his scientific thrills vicariously by paying visits whenever possible to experimental laboratories.

I found in my files the other day a three-page single-spaced typewritten letter written by the new president of M.I.T. from his position as professor of physics at the University of Chicago in the summer of 1930. This letter is filled with details regarding the design of the new laboratory, requests for further information, authorization to purchase pumps and vacuum spectroscopic equipment, and is exactly the type of letter physicists write to each other today, except that the voltages involved are usually now boosted and the wave lengths diminished by factors from 1,000 to 1,000,000, and the costs have been upped from 10 to a thousandfold.

After K.T. took his doctor's degree in physics in the Graduate School at Princeton in 1912, he became one of the best teachers of physics in the United States. He had a clear and powerful intellect, a strong interest in using his hands in experimentation, and a willingness to investigate a scientific field for its own sake without worrying too much about making some great discovery and achieving undying fame. I am sure that the times he enjoyed himself most, except when he was with his family, were when he was

(Concluded on page 76)



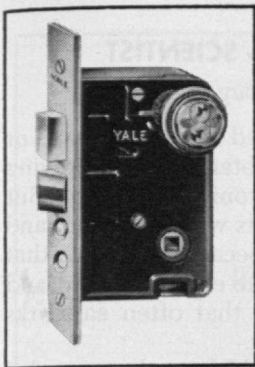
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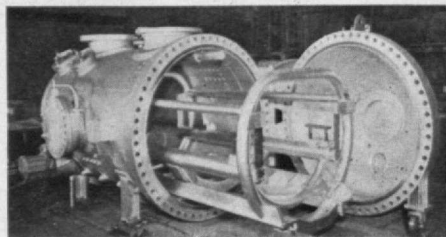
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KARL COMPTON — SCIENTIST

(Concluded from page 74)

blowing glass for a complicated vacuum setup, or plotting curves of readings obtained by applying various potentials in some electronic experiment. But his contacts with men and events were so broad, and the demands on his attention became so great, that he was never able to shut out the external world and focus his attention in the way that often earmarks the penetrating scientific genius.

I do not know what K.T. would have discovered if he had remained a scientist that has not now been discovered by someone else. But I do feel sure that the world has gained, and we all may be grateful, that he went on to do so many things that no one else could have done so effectively. He was talented as a scientist, but he was a positive genius in human relations. He thus attained renown not only as a scientist, but as an administrator, an organizer, a rallier of support to good causes, and a statesman of scientific understanding.

Today, however, let us think of him as a man who gave up the career that interested him most so that he could help make it possible for many other scientists to work in laboratories like the one we are dedicating today. He dedicated to us the great virtues that sprang from his tremendous human qualities, his great moral stature, his spiritual vigor, his transparent honesty, his freedom from guile, his sincerity, and his natural simplicity. We are thus celebrating a mutual dedication.

President Killian has expressed appreciation on behalf of the Institute to all who have contributed so much to make this great new laboratory possible. I want to express appreciation to these contributors also in behalf of all the scientists who will use the laboratory. Especially do we owe a debt to President Killian himself, and to Chancellor Stratton and his other colleagues, who went through untold hours of thought, worry, planning, re-dedication, and general financial bustling-about to make the building become a reality. Now it is here, and we are in it. The Computation Center, the Research Laboratory of Electronics, and the Laboratory for Nuclear Science are already flourishing entities with great achievements to their credit—they enter this new home with their wheels rotating at top speed, and their drivers ready to grip the new rails on contact. Karl Compton would have rejoiced to see this day, and in his name we dedicate this laboratory.



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TREND OF AFFAIRS

(Concluded from page 26)

participate in the instructional program and in the thesis work of the school. Students from other maritime colleges and from other schools in the United States are admitted as far as facilities permit.

Sixteen American schools besides M.I.T. have sent students to the program, with Yale having sent the most. These U.S. students have come from 36 of the 48 states. Foreign students from every continent of the globe have also participated in the program.

The curriculum of the school covers a period of 10 weeks, part of which is devoted to practical field mapping and more detailed studies related to the natural resources of Nova Scotia. In the past 10 years, students at the school have set up and occupied more than 50 camp sites for their field work.

This international co-operative venture in geological instruction and research was initiated by Walter L. Whitehead, '13, Associate Professor of Geology at M.I.T. who retired last June; Professor Donald J. MacNeil of St. Francis Xavier University in Antigonish; and Harold D. Smith of the Nova Scotia Research Foundation. It has been sponsored and supported from the beginning by the Nova Scotia Department of Mines. Additional assistance has been given by the Nova Scotia Research Foundation, the Dominion Coal Company, and the Geological Survey of Canada.

PRESIDENT'S ANNUAL REPORT

(Concluded from page 42)

The Institute now owns the Armory on Massachusetts Avenue. It will be vacated by the state when a new National Guard Armory is completed in another part of Cambridge; then, after renovation, it will become an integral part of the Institute's athletic plant.

This fall we will begin the gradual demolition extending over a two-year period of Westgate and Westgate West, temporary wooden structures which have been utilized since 1946 for the housing of married students and their dependents. This step has been necessitated by recent zoning rulings of the Cambridge Board of Appeals and by the deterioration of these temporary buildings. We are now studying plans to determine whether we can find an economic way to build permanent housing for some portion of the 1,200 married students in our student body.

M.I.T. Community

President Killian's annual report concludes with a review of the major events that have taken place on the campus and the contributions which have been made to M.I.T. activities by visiting scholars from all parts of the world. Again, many of these events have been mentioned in the pages of The Review during the past school year and, therefore, are omitted in this condensation.

Dr. Killian's ninth annual report to members of the M.I.T. Corporation is a scholarly and significant document, well worth reading in full by all who are interested in higher education.

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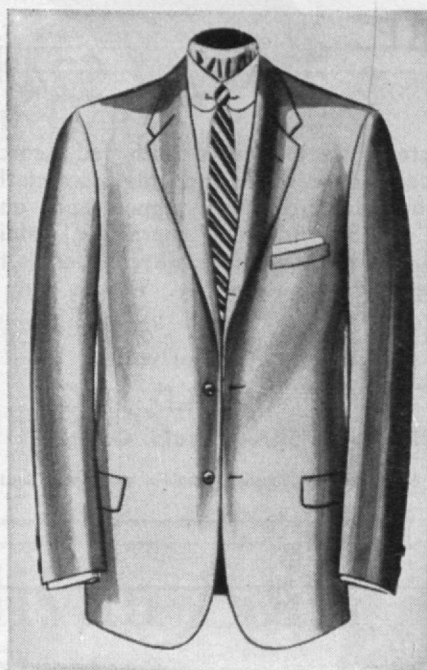
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NEW SCIENCE FACILITIES

(Continued from page 38)

as 40 experiments simultaneously. In addition, a medical therapy room is provided in the basement for medical studies on the use of reactor radiations. The basement also includes a gamma-radiation facility (water-filled steel tank in which spent fuel elements are stored), chemistry "hot labs," the reactor control room, and an equipment room for servicing the reactor.

Inside the steel shell of the reactor building is a concrete wall two feet thick which serves as a shadow shield in the unlikely event that substantial amounts of radioactive material escape into the building.

The heart of the reactor consists of a tank, four feet in diameter, filled with "heavy water" to a depth of seven feet. Inside the tank of heavy water are the 19 fuel elements consisting of thin sheets of aluminum and Uranium-235 sheathed in aluminum tubes three inches square and two feet long. When the reactor is in operation, this fuel will produce a nuclear reaction, giving off heat, neutrons, and gamma radiation. Samples of the materials to be irradiated can be inserted through the ports into an annular graphite region surrounding the reactor. At the design power level of 1,000 kilowatts, the reactor is expected to produce a maximum flux of about 3×10^{13} thermal neutrons per square centimeter per second, with an average of 1.8×10^{13} thermal neutrons per square centimeter per second.

The graphite region is surrounded by a boron-containing neutron shield, by a steel and lead gamma shield three inches thick, and by a concrete shield five and a half feet thick. These shields absorb substantially all of the neutron and gamma rays leaving the center of the reactor and make it perfectly safe to work near the reactor.

Access to the reactor is through a number of openings or ports. There are six 4-inch radial ports, six 6-inch radial ports, one 12-inch radial port, one 6-inch through-port, and two 4-inch through-ports for experimental purposes, and four 4-inch instrument ports. There are also six vertical thimbles into the graphite region, from the top of the reactor, and up to 10 small sample thimbles that can be inserted in the

(Concluded on page 82)

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(Concluded from page 80)

supplementary fuel positions at the edge of the core.

A large port beneath the reactor can be used to direct a neutron beam downward into the medical therapy room. It is hoped that a thermal neutron flux of 10^{10} neutrons per square centimeter per second can be achieved at the ceiling of this room. A shutter used to close the medical port consists of a tank of water beneath the reactor tank. When filled, this serves to moderate and absorb the large part of the neutrons. A boron-containing shutter and additional shielding for gamma rays are also provided. When radioactive radiation is required in the medical therapy room, the water in the tank is removed. In addition, a movable sliding shutter is pushed to one side, removing the boron from the path of the beam. Sufficient bismuth is allowed to remain in the path of the beam to reduce the intensity of gamma radiation to an acceptable level.

Twenty-six fuel elements, containing a total of five and one-half pounds of Uranium-235, will be loaned to M.I.T. by the Atomic Energy Commission who will reprocess the fuel when consumed. The uranium elements will serve as a source for the generation of neutrons, nuclear particles which will be used in research, in medical therapy, and in the training of nuclear engineers. The A.E.C. will also lend five tons of heavy water for use in the operation of the reactor.

J. Fruchtbaum, Buffalo, was the architect for the reactor building and the John W. Cowper Company, Inc., of Buffalo was general contractor. ACF Industries of Washington designed and manufactured the reactor.

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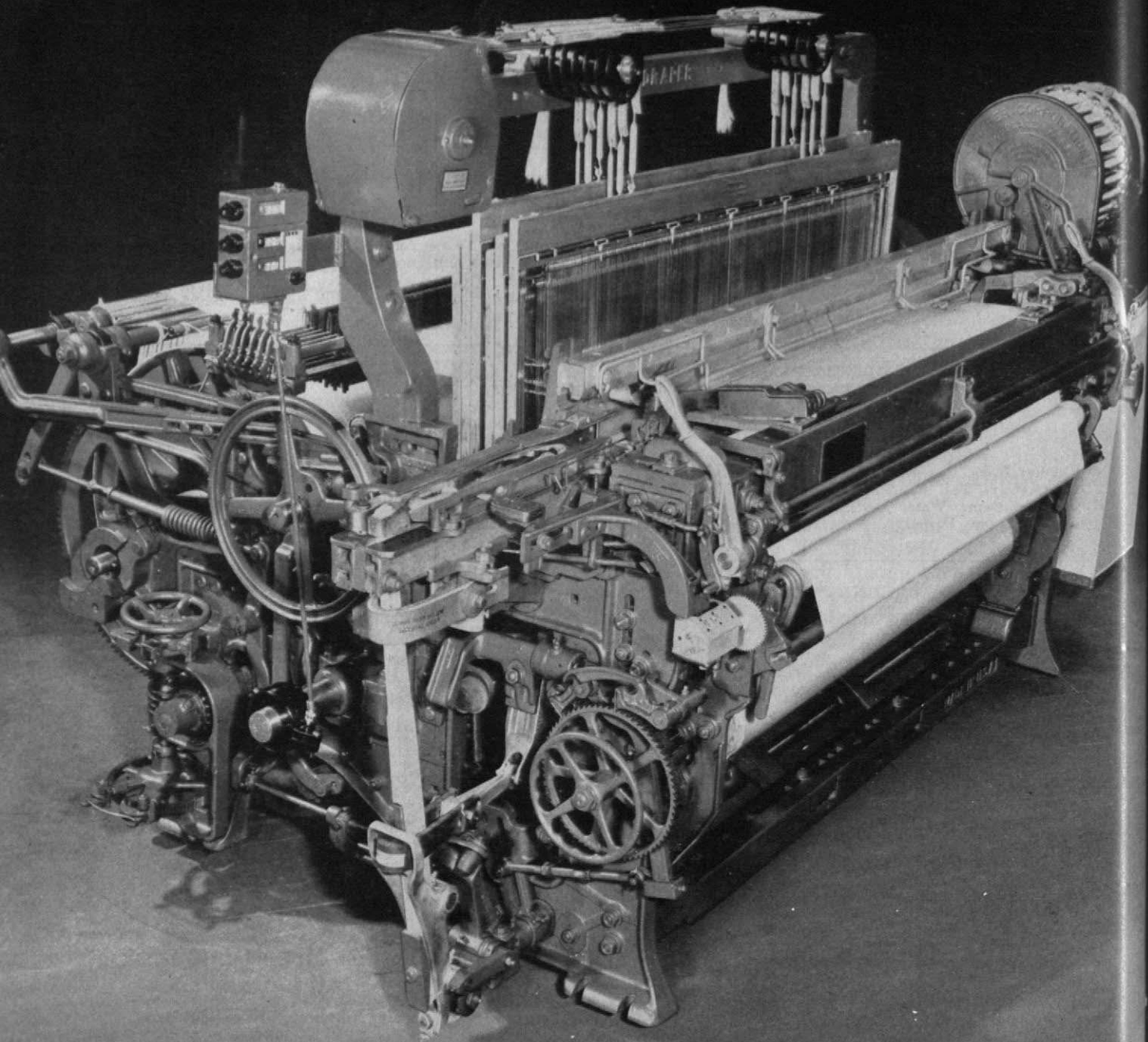
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ALUMNI AND OFFICERS IN THE NEWS

Honors and Awards . . .

To SUMNER B. ELY'92, an honorary membership award in the Air Pollution Control Association for his efforts in cleansing the atmosphere of industrial Pittsburgh . . . To CARL S. ELL'11, the Old Gold Goblet award, given annually to one who has "achieved honor in his life's work and has displayed continuing loyalty," by DePauw University . . . To PAUL V. FARAGHER'13, citation at the 60th annual meeting of the American Society for Testing Materials for long-time respected leadership and significant contributions to the activities of the A.S.T.M. . . . To HOWARD L. KING'15, the title of Metropolitan Civil Engineer of the Year.

To WILLIAM H. MCADAMS'17, retiring M.I.T. professor of chemical engineering, dedication of the first National Conference of the Heat Transfer Division, American Society of Mechanical Engineers, held jointly with the American Institute of Chemical Engineers at the University of Pennsylvania. Professor McAdams was special guest at a banquet in his honor during the conference . . . To JOSEPH H. COX'23, fellowship in the American Institute of Electrical Engineers and citation for "contributions to lightning protection through study of phenomena, and to the development of mercury arc rectifiers."

To RALPH M. EVANS'28, Progress Medal of the Society of Motion Picture and Television Engineers, the Society's highest award given annually for major contribution to the progress of photography . . . To JOHN L. CANTWELL'29, fellowship in the American Institute of Electrical Engineers, for exceptional contributions to the electrical engineering profession over a period of years.

To ALVIN B. BUCK'49, the Commendation Ribbon for his work from 1954 to 1955 with the Air Weather Service . . . To JACK H. WESTBROOK'49, the Francis Mills Turner Memorial Award of the Electrochemical Society, presented to an author, under 31, of a paper published in the Society's journal . . . To ROBERT S. SWANSON'53G, the fourth prize in the design competition for a \$5,000,000 National Cowboy Hall of Fame and Museum in Oklahoma City.

Publications . . .

Research on Fire, edited by HORATIO L. BOND'23 and printed by National Fire Protection Association, is a report describing the facilities, personnel, and management of some of the agencies engaged in research on fire. (Lexington, Mass.: The Lexington Press, Incorporated, 1957, 184 pages, \$5.00.)

Transistor Circuit Engineering, edited by RICHARD F. SHEA'24, covers transistor theory and its proper application in typical circuits. (New York: John Wiley

and Sons, Inc., 1957, 468 pages, \$12.)

Electrical Engineering Circuits by HUGH H. SKILLING'30 is an undergraduate textbook dealing with the analysis of a-c circuits. One third of its chapters are devoted to modern concepts such as network theorems and Laplace transformations. (New York: John Wiley and Sons, Incorporated, 1957, 724 pages, \$8.75.)

In the third edition of *The Horolovar 400-Day Clock Repair Guide*, CHARLES O. TERWILLIGER, Jr., '31, poses and answers questions about 400-day clocks, diagnoses symptoms, and prescribes treatment. (Bronxville, N.Y.: Horolovar Co., 1956, 127 pages, \$3.00.)

Obituary

CHARLES G. TREFETHEN'88, June 7
GEORGE W. STONE'89, July 7
CHARLOTTE A. BRAGG'90, August 31°
FRANKLIN KNIGHT'90, July 30°
WALTER B. DOUGLASS'91, July 10°
STERLING T. DOW'91, November 23, 1956°

LEONARD A. WHEELER'91, May 5, 1956°
HARRY J. CARLSON'92, June 16°
CHARLES H. CHASE'92, July 9°
CHARLES SUMNER GREENE'92, June 11°
JOHN C. HAWLEY'93, April 30, 1954
FREDERIC F. LOW'93, August 9°
EDNA WADSWORTH MOODY'93, December 9, 1956°

WALTER MULLIKEN STEARNS'96, April°
MORTON C. TUTTLE'96, July 19°
HERBERT LYMAN'97, June 20°
FRANCIS H. SHEPARD'97, June 22°
DAVID H. BLOSSOM'98, June 25°
HARRY D. DONNELL'98, March 19°
RALPH T. HORTON'98, April 24°
CHARLES W. PENDELL'98, April 19°
WILLIAM A. HAZARD'99, May°
ARTHUR A. JOHNSON'99, December 19, 1956°

ARTHUR R. MOODY'99, December 20, 1956°

FRED WIGHTMAN'99, March 29, 1955°

JANE H. BARTLETT'00, August 3

HAROLD L. MORGAN'00, August 2

EDWARD F. RUSSELL'00, July 13

ALICE V. WILSON'00, July 21

MORTIMER B. FOSTER'01, July 6°

ARTHUR C. JEWETT'01, July 27°

HARRY A. WHITON'01, August 31

ALFRED W. ALLYN'02, May 8°

ALFRED W. FRIEND'02, August 4°

LESTER C. HAMMOND'02, June 11°

JAMES C. HOWE'02, June 28°

IRVING W. REYNOLDS'02, June 3°

FRANK G. COX'03, May 29°

CARLETON F. GREEN'03, June 29°

DAVID D. MOHLER'03, June 13, 1954°

ROBERT P. BELLOW'S'04, May 23

RICHARD K. HALE'04, September 17, 1956°

EVERETT O. HILLER'04, July 1°

ERNEST L. RUPP'04, June 21°

FRANCIS E. DRAKE'05, August 5

WARREN W. LOOMIS'05, May 23

SAMUEL SHAPIRA'05, June 3

FRANK ATWOOD BROWNE'06, August 30

NUCENT FALLON'06, July 24°

WILLIAM J. LUMBERT'06, June 19°
RALPH R. PATCH'06, September 18°
HENRY R. PATTERSON'06, June 3°
HENRY D. BRANDYCE'07, July 3°
HENRY D. LORING'07, March 20
LYMAN F. WHITNEY'09, May 4°
JAMES H. O'BRIEN'10, February 2°
CHRISTOPHER A. SCHELLEN'S'10, June 11°
EDWARD R. HALL'11, June 21°
JOHN R. HUGELMAN'11, June 18°
OTIS HUTCHINS'11, August 27°
J. BARTON NEALEY'11, July 9°
WILLIAM A. BOTTOMLEY'13, August 23°
DE VERE DIERKS'14, May 21°
ELDEN I. STAPLES'14, May 5°
O. RICKER FREEMAN'15, May 12°
ERNEST HAYWARD'15, June 15°
KENNETH T. KING'15, August 9°
ELIE P. BOUCHER'16, May 27
MURRAY P. HORWOOD'16, June 4°
RAYMOND P. LOW'16, January 23, 1953
JOSEPH R. MINEVITCH'16, July 3°
JOHN H. PICTON'16, 1951
GEORGE W. REPETTI'16, June 29, 1956
RAYMOND M. STOWELL'16, June 23°
JOHN B. DICKSON'17, June 24°
KENNETH L. HARPER'17, May 9°
LEANDER H. HILLS'17, January 13°
GILBERT A. HUNT'17, July 16°
FRANK S. BOICE'18, April 3, 1956°
PERCY W. CARR'18, August 8°
RICHARD H. SMITH'18, July 1°
CULLEN H. WANT'18, April 17°
FRANCIS J. COYNE'19, August 21°
SEGUNDO H. AYALA'20, 1953°
ETTORE CIAMPOLINI'20, June 27°
EARLE C. FAIRBROTHER'20, 1956°
DONALD M. FERRIS'20, June 18
JOSEPH A. MAHONEY'21, May 10°
MORRIS M. BAUER'22, June 11, 1956
ROBERT H. HAIRE'22, May 24°
JAMES V. ZURLO'22, July 21°
FORREST G. HUNT'23, September 16, 1952

CHLOE M. JACKSON'25, April 21°
LAWRENCE A. MAASKE'25, June 4°
JOHN E. OSTRANDER, Jr., '25, June 28°
BOWMAN MCKENNAN'26, July 22
EDWARD G. COWEN'27, August 3°
CHARLES H. DAISY'27, May 17°
PAUL C. HITCHCOCK'27, August 29
KENNETH E. SMITH'27, June 26°
ISAAC G. SPOWE'27, June 4°
T. CARLTON KANE'28, July 26°
URBAN NIBLO'28, August 14
SIDNEY D. KRAMER'29, June 24, 1955
JOHN P. WALSTED'29, January 26
HAROLD P. CHAMPLAIN'31, June 26°
JEREMIAH J. MCCARTHY'31, August 26, 1956°

RICHARD E. STANFIELD'35, August, 1956
M. RICHARD ERICKSON'40, July 7°
STEPHEN J. FARRINGTON, Jr., '42, May 31°
WILLIAM G. SAUNDERS'43, August 10°
DENNIS J. PHELAN'44, June 30, 1956
ROBERT M. SINGER'47, February 13, 1955°

VICTOR RAGNI'47, March 23°
HERBERT JACOBS, Jr., '49, August 24
RALPH GELMAN'56, June 28°

* Further information in Class Notes

NEWS FROM THE CLUBS AND CLASSES

CLUB NOTES

Buffalo and Niagara Falls

The annual outing for the Buffalo-Niagara Falls M.I.T. Club was held at the Youngstown Yacht Club on Tuesday evening, August 27. A total of 62 M.I.T. men, wives, and guests attended. Several dinghies were kept busy by the members and guests until interrupted by a most delicious buffet supper served by the Yacht Club personnel. After supper an eight-piece volunteer dance band composed largely of club members took over and did an excellent job of keeping the party lively until well toward midnight. According to unsolicited comments of those attending, the perfect weather, delicious food, good music, and fine fellowship added up to a "well nigh perfect" evening. — R. S. HAMILTON'24, *Secretary*, Linde Company, Post Office Box 44, Tonawanda, N.Y.

Central Pennsylvania

The M.I.T. Club of Central Pennsylvania held its annual spring meeting and election of officers at the Lafayette Club in York, Pa., on April 28.

Following cocktails and a most excellent prime rib of beef dinner with all the fixings, we were entertained by an informal, stimulating and provocative talk on management by J. Herbert Lindholm, Armour Institute'23, executive vice president of Borg-Warner Corporation.

Attending the meeting were Howard Banzett'38, Donald Bly'50, Francis A. J. Brown'26, Andrew R. Brugnoni'26, L. O. Buckner'21, John P. Connelly'28, W. T. Dyall'48, Randall J. Hogan'22, Randall J. Hogan, Jr.'49, Karl E. Katz'50, Eldor J. Mink'22, Robert Peterson'48, Frank A. Robbins, Jr.'02, Lucien R. St. Onge'26, George W. Smith, Jr.'47, Harold R. Spaans'30, Francis E. Thomas'17, Percy E. Tillson'06, C. J. Walton'14, Gardiner C. Wilson'15, and E. M. Elias, guest.

Election of officers was held after the dinner meeting with the following officers for 1957 duly elected: John P. Connelly'28 of York, President; Gardiner C. Wilson'15 of Lancaster, first Vice-president; Francis E. Thomas'17 of Carlisle, second Vice-president. — ANDREW R. BRUGNONI'26, *Secretary-Treasurer*, 1706 Beckley Street, New Cumberland.

Cincinnati

Last April, the Cincinnati Alumni were honored to have Dr. James R. Killian, Jr., as their guest at a dinner meeting at the Queen City Club.

Dr. Killian discussed educational trends at M.I.T. and the changing responsibilities of M.I.T. in today's society.

In June, the club held its annual stag

picnic, sponsored by the Beckett Paper Company, at the Hamilton Boat Club on the Miami River. Volleyball, shuffle board, boat rides, and cold beer combined to make a pleasant and relaxing outing. At this meeting, the officers for the past year were re-elected for another term. They are: Gerry Burns'51, President; Jack Comer, Jr.'48, Vice-president; Sam Crew'34, Treasurer; Jim Stolley'52, Secretary.

The yearly reception for undergraduates and entering freshmen was held at the Queen City Club on August 27. An excellent movie, *The Social Beaver*, was shown and Jim Rowan'57, gave the freshmen some advice on life at M.I.T. An informal get acquainted hour gave the students a chance to meet each other and to talk to the several alumni present. — JAMES S. STOLLEY'52, *Secretary*, 11 Beverly Drive, Hamilton.

Fairfield County

Our fall dinner meeting which was held Tuesday, October 29, featured Professor John T. Rule, Dean of Students, as guest speaker. The meeting was held at the Clam Box Restaurant in Westport, Conn., and got underway with a social hour starting at 6:00 P.M., followed by dinner at 7:00.

If you live in Fairfield County and do not receive notices of the Club's meetings, please notify the Secretary. — ANTHONY R. SAVINA'30, *Secretary*, 79 Ledge Lane, Stamford, Conn.

Fort Worth

The M.I.T. Club of Fort Worth, Texas, held its regular quarterly meeting June 20 at the Western Hills Hotel. Ralph Uhrmacher'31, past president, brought an inspiring talk entitled "The Production of American Whiskies." Discussed were the processes and equipment used to bring whiskey to maturity. Also treated were the subjects of whiskey blends and terminology. The different kinds of stills and the importance of aging were explained. Ralph, now vice-president and director of research for Panther Oil and Grease Manufacturing Company at Fort Worth, was employed by a large distillery immediately after receiving his master's degree in chemical engineering. One of the tasks associated with this job was that of taking samples for laboratory analysis. It seems that the minimum acceptable sample was one pint.

The talk was well received and a great many questions were asked. — L. M. HAILEY'50, *Secretary-Treasurer*, 2801 Creston Avenue, Fort Worth 15, Texas.

Indiana

The Indiana Association of M.I.T. in Indianapolis held its final meeting of the 1956-1957 season on May 23. It was a ladies' night, pitch-in dinner held in the

social room of a brand new neighborhood branch bank building. The following alumni and, in most cases, their wives attended: John H. Babbitt'17, S. G. Pantazi'47, Mrs. S. G. Pantazi'47, Marshall D. McCuen'40, Thomas G. Harvey'28, Lowell L. Holmes'23, Frank Travers'23, Harold M. Oshry'35, Gustav W. Klump'30, Samuel H. Hopper'33, William E. Rogers, Jr.'50, Gilbert B. N. Mar'52, S. J. Garvin'50, R. H. Pinkham'99, John B. Welch'13, and J. Raymond Ramsey'17.

Immediately after dinner an election of officers for the 1957-1958 season was held in the usual "railroad" fashion by the retiring president, railroader John Babbitt. Elected were S. G. Pantazi'47, President; Marshall D. McCuen'40, Vice-president; and William E. Rogers, Jr.'50, Secretary-Treasurer. Following this, a film was shown of Washington, D.C., through the courtesy of John Babbitt's real railroad, the Baltimore and Ohio. The evening was finished out with a few bridge games. — MARSHALL D. MCCUEN'40, *Secretary*, 4414 Broadway, Indianapolis 5, Ind.

Lehigh Valley

The M.I.T. Club of the Lehigh Valley held its annual spring meeting for members and wives at the Lehigh Country Club in Allentown, Pa., on June 15, 1957, one of the hottest days of the summer. Nevertheless about 50 alumni and wives turned out for an enjoyable get-together. The meeting included golf for a number of the group followed by a steak broil and dancing. New officers for the coming year were elected at a brief business meeting. The new officers include President, S. L. Muther'34; Vice-president, G. W. Spaulding'21; and Secretary, J. T. Acker'24. H. S. Graham'47 will continue to serve as Treasurer. — J. T. ACKER, *Secretary*, 154 Langhorne Avenue, Bethlehem, Pa.

Long Island

The season's activities of the M.I.T. Alumni of Long Island started with a meeting of the board of directors on June 17 at the home of the newly elected chairman, Harvey Kram'42. A series of five affairs was planned, the first of which was a very fine dance held on September 27 at the Roslyn Country Club. About 65 couples attended the dance, the chairman of which was George Knapp'35.

The Club is planning a dinner meeting to be held on November 8. The guest of honor will be Dean of Students, John T. Rule'21, who will talk about student life at M.I.T. and the change of attitude of the student of today. In addition, H. E. Lobdell'17, Executive Vice-president of the Alumni Association, will be present. The dinner will be a specialty of the area, Long Island duckling. Since the November 8 dinner meeting is limited to about 150 people, Harvey Kram, chairman, 101 Barnyard Lane, Roslyn Heights, N.Y.,

should be contacted promptly for reservations.

In February, a non-technical meeting will be held with a speaker of interest to family groups. The lecture will be along the same lines as a previous one given by Commander Irving Johnson on his experiences sailing a square-rigged ship around the world. The annual meeting will be held in May, featuring a speaker from M.I.T. The final affair of the season will be the beach party, which will be held at Gilgo Beach.

Any M.I.T. Alumni in the Long Island area interested in the activities of the Long Island Club are urged to contact the following: Harvey Kram (address above); or John Casey'40, 69 Mason Drive, Manhasset, N.Y. — EDWYN A. EDDY'32, *Secretary*, Berry Hill Road, Syosset, N.Y.

New Hampshire

On May 24 the M.I.T. Club of New Hampshire held its annual meeting at the Manchester Country Club. After a social hour enjoyed by all present, a delicious dinner was served by the steward.

Chick Kane'24, Director of the Alumni Fund, was the featured speaker. He showed movies of the physical development of Tech supplemented by his usual humorous comments. He was accompanied by his charming wife, Betty. Don Severance'38, who brought along his delightful little daughter as a dinner partner, also favored us with a few remarks.

The meeting broke up at an early hour and all agreed that it was one of the best ever. In recent years our meetings have been more in the line of social events than of gatherings to impart technical information.

Among the members present were: W. G. Abbott, Jr.'06, L. A. Arnold'42, B. Atherton'24, E. A. Beaupre'41, R. A. Bisson'30, W. P. Boynton'31, W. C. Brown'16, D. E. Burke'46, D. B. Coates'30, J. R. Daniell'97, W. D. Davol'06, E. F. Dillon'47, J. W. Doon'17, C. A. Hall'08, L. C. Hall'35, L. S. Hall'14, S. L. Hall'43, L. B. Heaton, Jr.'38, J. A. Hurd'33, G. D. Jackson, Jr.'27, L. W. Labombard'41, P. Labombard'47, R. E. LeBlanc'36, J. Lovejoy'22, R. G. Moss crop'20, H. W. Pope'39, C. R. Prichard, Jr.'30, D. G. Quigley'56, N. P. Randlett'22, D. P. Thurber'48, R. B. Todd'08, B. W. Williams'53, M. A. Wight, Jr.'40.

A majority of the members brought their wives, and many brought sons, daughters and other guests.

The present officers were re-elected for another year. They are Charles R. Prichard, Jr.'30, President; Norman P. Randlett'22, Vice-president; Lawrence C. Hall'35, delegate to the Alumni Council; Blaylock Atherton'24, Secretary-Treasurer. — BLAYLOCK ATHERTON'24, *Secretary-Treasurer*, 142 Main Street, Nashua, N.H.

New Haven

Our annual outing was held at the Pine Orchard Country Club, Branford, on Saturday, June 15. The weather was clear and hot — an ideal day for an outing on Long Island Sound. In the afternoon the members and their guests enjoyed golfing, tennis and swimming. Fred Lutz'27 and

Ed Taft'13, who had just returned from a six months' cruise to Florida, brought their yachts into the club's dock and took most of the members and their guests on a cruise of cool Long Island Sound.

At the conclusion of the afternoon's activities, we relaxed at a pleasant social hour followed by the famous and delicious Pine Orchard buffet. Following the buffet dinner, there was a brief business meeting including the election of officers for 1957-58. Roger Pursell'28 was elected President; George Bailey'22, Vice-president; Jack Lynch'52, Secretary; Greg Gagian'43, Treasurer; and J. B. Gardner'24, Governor-at-large. The group also viewed a color movie on the new and amazing air defense system SAGE, which was developed under the direction of M.I.T.'s Lincoln Laboratory.

Members and their guests who attended the outing included: A. W. Bachelder'54, George Bailey'22, Benjamin F. Clark, Jr.'31, Phil Dreissigacker, Jr.'37, J. B. Gardner'24, Greg Gagian'43, Larry Grew'27, Philip Horrigan'48, John Harsch'43, Hudson Hastings'07, Leslie Hoffman'17, John Kaymen'48, Al Libbey'26, W. J. Lyons, Jr.'48, Fred Lutz'27, Jack Lynch'52, Harold Manning'12, Frank Nettleton'30, Roy Parsell'14, Roger Pursell'28, Haig Solakian'17, Roy Stone'22, Ed Taft'13, and Mike Tremaglio'36.

We hope that all of you New Haven County M.I.T. men who were not able to attend the outing will be frequent participants in our meetings this year. If you have not been receiving the meeting announcements, drop me a card requesting that you be included on the Club's mailing list. — JOHN P. LYNCH, JR.'52, *Secretary*, Post Office Box 731, Waterbury 20, Conn.

New Mexico

The annual meeting of the M.I.T. Club of New Mexico took the form of a week end outing at Cloudcroft in the southeastern part of New Mexico on May 4. Cloudcroft is a scenic resort village perched high in the Sacramento Mountains overlooking White Sands. The majority of the representation was from Albuquerque and White Sands Proving Ground which are separated by some 270 miles.

The well planned program included a *smorgasbord* dinner and an after-dinner talk by Colonel Stapp, whose experiments on the physical tolerances of the human body are well known. In the talk, Colonel Stapp pointed out that the American break from tradition has wrought a revolution in technology which is accelerating. This is leading us to the frontiers of space flight and into such problems as the large-scale desalination of sea water, the synthesis of chlorophyll, and the basic causes of insanity which may now be suspected to be chemical in origin.

About 30 of the group gathered at Sacramento Peak Observatory the next morning. This observatory is set up to study the sun. It has a five inch and a sixteen inch coronagraph and keeps a continuous monitorial eye on the sun, exposing film every few minutes during the day. Interesting events, such as severe storms, are supplemented by more continuous observation. The group was guided through the facilities of the observatory (which is

largely manned by Harvard astronomers) by Dr. Evans, the director. The observatory operates under an Air Research and Development Command contract and is currently collecting information which will be available for future space flight activities. Dr. Evans showed us movies of sunspots and of solar prominences and flares. It is believed that sunspots are electromagnetic in origin and nature, but their causes are still unknown. One item of interest was that the surface of the sun is at 6,000° Kelvin but that the temperature a few miles away from the surface increases to over 1,000,000° Kelvin. It is difficult to view the disc of the sun accurately, due to the earth's clouds and the distorting effect of our atmosphere. This will complicate astronomical observation until an observatory in outer space is established. Different sun phenomena produce different results here on earth. One particular type of phenomena occurs when a stream of material is emitted from the solar surface, returning in a closed loop to the sun and invariably resulting in "black out" of radio signals of a particular wave length. Other characteristic phenomena include periods when sudden streams of material leap from the surface to outer space, sometimes millions of miles high, and when material appears to condense and "rain" matter out of one portion of the solar sky for extended periods of time. Photos taken in hydrogen light show these and other phenomena. The rate of return of material to the solar surface does not appear to be related to gravity — a very puzzling factor.

Those who attended the meeting were Mr. and Mrs. Ted Alexander'32; Commander and Mrs. Steven Anastasion'48; Mr. and Mrs. Bennett L. Basore'52; Mr. and Mrs. Walter E. Brown, Jr.'53; Mr. and Mrs. F. E. Burley'30; Mr. and Mrs. Bill Caskey'56; Leonard Ehrman'53; Mr. and Mrs. Fred J. Given'19; Mr. and Mrs. Ray Holland, Jr.'34; Joel Hamilton'56; Major Frederick M. King'42; Mr. and Mrs. Bill Perret'30; R. E. Quinlan'30; Mr. and Mrs. G. W. Rollososon'47; J. C. Sargent'28; Major Robert B. Savage'55; Mr. and Mrs. J. W. Sims'49; Captain and Mrs. Edwin E. Speaker'56; Mr. and Mrs. A. N. Tschaeche'51; Mr. and Mrs. Bruce Weston'54; Professor and Mrs. H. Bartel Williams'47.

Much of the program organization was carried out by the members at Holloman, participation was state-wide, and a good time was had by all. — JULIAN E. GROSS'50, *Secretary*, 705 Cagua Drive, S.E., Albuquerque, N.M.

New York

The officers and directors of the M.I.T. Club of New York are delighted and proud to announce the recent move to new and handsome quarters at the Hotel Biltmore. The move took place on October 1, 1957. The Club welcomes all members and alumni to its new headquarters. Our genial and efficient executive manager, Miss Maxine Gilliland, will be "on deck" from 11:30 A.M. to 7:30 P.M., Monday through Friday, to greet members and guests, to assist with hotel reservations, and to arrange for private parties in the Club, in addition to her primary objective,

which is to keep the Club running smoothly.

Gene Smoley'19, Club president and Ken Finlayson'35, chairman, House Committee, are primarily responsible for the Biltmore site. Facilities include a large lounge; a well stocked bar manned by Richard, whose red jacket and skilled mixing hands are known to hundreds of members; and a congenial luncheon area where the Club table will await all comers. Individual tables will be available for those members preferring privacy.

The new Utilization Committee, chaired by energetic Eddy Edgar'35, has scheduled monthly luncheons for each Class. Over 60 Class sub-chairmen have been appointed to help spread the word, and from the interest already expressed, this program promises to be extremely successful. The luncheons started in October and all alumni are welcome.

Another feature of the new operation which is enjoying an enthusiastic reception is a series of monthly technical seminars. These are open to a limited number of members by reservation only. Many requests to attend have already been received, so those members wishing to be included must act quickly.

We enjoyed seeing New York area alumni at the October beer party at the Ruppert Brewery. — ROGER G. BLUM'41, Secretary, 285 Old Colony Road, Hartsdale, N.Y.

Philadelphia

Our area was well represented at Tech's September 6 and 7 Second Alumni Officers' Conference. Participants who enjoyed the splendid program of education in Institute affairs were: Herbert W. Anderson'15, Halton M. Beumer'48, Frank S. Chaplin'32, Albert F. Coleman'31, Wylie F. Corl, Jr.'39, Lee C. Eagleton 2'44, C. W. Hargens, 3d'41, Stephen B. Hazzard'43, E. Neil Helmers'48, Stuart R. Knapp'31, Samuel K. McCauley'41, Robert E. Ritterhoff 6'46, Spencer A. Schilling 2'44, Carl P. Schumacher'51, and Robert E. Worden'36.

Lombard Squires'31 has been nominated an Alumni member of the M.I.T. Corporation Visiting Committee for the Department of Chemical Engineering.

By the time these notes are published we will have held our fall meeting at Franklin Institute. Following the usual social hour and dinner, Harry A. Kuljian'19, will have told us about the extensive operations of The Kuljian Corporation. — HERBERT R. MOODY'41, Secretary, 8609 Patton Road, Wyndmoor, Philadelphia 18, Pa.

Rochester

Club activities for the year started with the annual meeting on September 21. As usual, this was an outdoor steak roast. Elections for 1957-58 officers took place at that time. Dick Wilson'30 headed the Nominating Committee. President-elect Fred Kolb'38 met at his home with the Executive Committee to discuss program and club plans for the coming year. The major item of discussion centered about the possibility of Rochester being the site for a Regional Conference either in the

spring or fall of 1958. Dick Wilson, Fred Kolb, Evan Edwards'37, and Charles Buik '45 attended the Second Annual Alumni Officers' Conference held in Cambridge, September 7. Dick Wilson has been appointed Special Gifts Chairman for the Class of 1930. — J. K. LITTWITZ'42, Secretary, 191 Rogers Parkway, Rochester 17, N.Y.

Washington

Our first meeting of the coming season was held at the Cosmos Club (2121 Massachusetts Avenue, N.W.) on September 26, at 6:00 P.M. This was a dinner meeting featuring a talk on "Financial Planning" by Mr. George M. Ferris, Jr. This was the first of a three-session seminar on the subject. The second and third sessions were held at 8 o'clock on the 3rd and 10th of October at the National Housing Center auditorium, 1625 L Street, N.W.

The program for the rest of the year is as follows: November 20, dinner meeting at the Cosmos Club, 6:30 P.M. Guest speaker, John T. Rule, Dean of Students at M.I.T., speaking on "Today's Undergraduate." December 27, second annual luncheon for tech students and prospective students, to be held at 12 o'clock noon, at the Army-Navy Club, Farragut Square and I St., N.W. Anyone who is interested, please call Bob Blake'41, Oliver 4-3250 or Jefferson 2-3929.

March 1, Washington's first Regional Conference will be held at the Shoreham Hotel. This most significant and unique event will be a gala, all-day affair including luncheon and banquet, and will feature speakers such as M.I.T. President James R. Killian, Jr., and other notables. Attendance will be limited to 500. All M.I.T. alumni in the Washington area will receive notices. Further details will be published later in this column.

Notices of the first meeting were mailed to all known alumni in the Washington area. Those of you in the Washington area who did not receive these notices and would like to be included in our records, please contact us at this address and phone number: M.I.T. Club of Washington, Professional Engineers Building, 2029 K Street, N.W., Washington 6, D.C., Phone Metropolitan 8-6112. — CHESTER N. HASERT'41, Secretary, 2475 Virginia Avenue, N.W., Washington 7, D.C.

Western Pennsylvania

The annual business meeting of our club was held Monday, May 27, at the University Club in Pittsburgh. Nearly 50 members attended since there were many important matters to discuss. Annual elections resulted in the following new officers: President, Thomas I. Stephenson 6'45; members of the Board of Governors, J. W. Barriger, 3d'21, A. A. Archibald'28, J. R. Ferguson, Jr.'37.

Plans for a regional conference were discussed. The conference has been scheduled for December 7, 1957, at the Hotel Penn Sheraton, Pittsburgh. E. J. Hanley '24 and J. Lawrence'32 have been selected to act as general co-chairmen, and they will be assisted by T. I. Stephenson as deputy general chairman. Other commit-

tee officers are E. H. Koontz'36, Treasurer; I. W. Wilson'11 and R. P. Price'50, co-chairmen of Special Invitations (deputy, Henry Avery'41); Howard S. Turner'36 and Ingvald E. Madsen'33, co-chairmen of Arrangements and Registration; Raymond Mancha'26, Program chairman (deputy, William Laird'43); H. H. McClintic'19, chairman of Hospitality (deputy, Julian Gammon 6'45); R. O. Davis'42, chairman of Publicity (deputy, Jerome Hahn'47); J. W. Barriger, 3d'21, chairman at Speaker's Dinner (deputy, A. J. Oxenham 6'45). Volunteers for committee work were asked to contact T. I. Stephenson at 1501 Alcoa Building, Pittsburgh 19, Pa. — STANLEY KASPER'48, Secretary, 625 Morrison Drive, Pittsburgh 16, Pa.

CLASS NOTES

1890

Franklin Knight, who, although a graduate in Civil Engineering, became eminent as a clergyman of the Episcopal Church, having served as Rector of St. Paul's Church at Holyoke, Mass., from 1911 to 1937, died in Lenox, Mass., on July 30, 1957. He was born in Lynn in 1869, received his preliminary education in the Lynn schools, and after his graduation served two years as an assistant in the Civil Engineering Department and one year in a Boston engineering office. Then, deciding that his leaning to the ministry meant his future was to be as a clergyman, he went to the Berkeley Divinity School at Middletown, Conn., where he spent two years. He was ordained to the priesthood by Rev. William Lawrence, then presiding Bishop of the Episcopal Church. After his ordination Mr. Knight went to the Church of the Good Shepherd at Colorado Springs, Colo., where he stayed three years. Then he returned to the East and spent comparatively short periods at Lynn, Dalton, and New Haven before going to Holyoke.

At Holyoke, he was especially noted for his interest in family welfare, serving in various official capacities and also as a member of the school committee.

His wife, who was Gertrude Mosher, daughter of an Albany physician, died several years ago; they had one daughter, Mrs. Ralph Haywood of Marblehead, and two sons, Edward V. of Lenox and Franklin, Jr., of Marietta, Ga. They also left nine grandchildren and five great-grandchildren.

Miss Charlotte A. Bragg, emeritus professor of chemistry at Wellesley College, died on August 31 at the age of 94. We quote the following letter from Ernest A. Bragg'98: "It is with regret that I report to you the death on August 31 of my aunt, Professor Charlotte A. Bragg, a member of the Class of 1890. She was born in Milford, Mass., on August 17, 1863, the daughter of Ariel Bragg, Jr., and Sarah Kimball Bragg. She was educated in the schools of Holliston, Mass., and Wilbraham Academy, after which she taught in a district school of Holliston, then in a private school in Chattanooga, Tenn. She entered Technology in the class of 1890.

Following graduation she became a teacher at Wellesley College where she became professor of chemistry, retiring in 1929. After retiring she spent her summers in her home at Franklin Street, Marblehead, and many of her winters in Florida and California. Since 1950 she has lived in Melrose. In June, 1956, she entered the Elmhurst Nursing Home, where she remained until her death of cerebral thrombosis." — GEORGE A. PACKARD, *Secretary*, 25 Avon Street, Wakefield, Mass. CHARLES W. SHERMAN, *Assistant Secretary*, 16 Myrtle Street, Belmont 78, Mass.

1891

Our Annual Meeting and Banquet was held at the Brookline Country Club on June 8. These members of the class were present: Bunker, Cole, Damon, Read, Tappan, Brown, Warren, and our President, Harry Young.

Besides these there were five ladies who came as guests of the class: Joseph Warren brought his daughter, his granddaughter and his nurse; and Mrs. Herbert Kimball of Redondo Beach, Cal., was present with her daughter, Mrs. Fowle of Marblehead. These ladies added much to the gaiety and pleasure of the occasion.

Greetings from members unable to be present were noted. Horace Brand of Chicago writes: "I am thankful to the Almighty that I enjoy good health, am able to work with considerable activity, have a fine family of children, grandchildren, and great-grandchildren, and that I do not worry too much; my best wishes to all members of the class!" From Frank Howard, former Secretary of the Class: "Greetings to all survivors of good old '91! I believe you can all join me in looking back over your long life with a good degree of satisfaction and appreciation of the grand foundation that M.I.T. provided for you to build on. I have two sons and four grandsons who are building on that same foundation and doing well."

A cordial note from Horace S. Ford, our honorary member, expresses his regret that pressure of engagements makes it impossible for him to attend, but he sends the happiest greetings.

Robert Ball of Cambridge, England writes: "To my classmates of 1891, Greetings! I send you a cordial of greeting, and affection, on this 66th year since graduation at M.I.T. Circumstances have kept us apart all these years and the changes in Boston have left but little of the old haunts. To be sure fine and commodious buildings have taken the place of those we knew, but this does not break our attachment to the 'Tech' as we knew it. Are we not proud when we reflect on the great name M.I.T. has on both sides of the Atlantic?"

We stood in silence in memory of members who had passed on since last we met: Leonard A. Wheeler, F. Clouston Moore, Gorham Dana, Morris A. Peters, C. Hancock Wood, and Herbert S. Kimball. Since our meeting word has come of the death of Sterling T. Dow and Walter B. Douglass.

The meeting closed with a feeling of gratitude that we had once again paid our tribute of affection and thankfulness for Tech and all it has meant to us.

Two days after the meeting Mrs. Kimball wrote, for herself and daughter: "The luncheon was delicious, the clubhouse and grounds so attractive and the classmates so thoughtful that we shall long remember the occasion." And our President, Harry Young, who does so much for us all: "I think everyone enjoyed the outing — all had a good time." — WILLIAM CHANNING BROWN, *Secretary*, 15 Forest Avenue, Hastings-on-Hudson, N.Y.

1892

Three members of '92 attended the Alumni Luncheon last June 10: Arthur J. Ober, I, Frank E. Perkins, IV, and Charles E. Fuller, II. It was our 65th anniversary, but we had made no special plan for any other celebration.

It is the sad duty of the secretary to announce the death of two of our classmates — Harry J. Carlson, and Charles H. Chase.

Harry J. Carlson died at the Brooks Hospital, Brookline, after a long illness. Carlson was a partner in the contract firm of Coolidge and Carlson from 1903 until he retired in 1950. His work included design of many office and college buildings, churches, and residences, particularly the main college building at Wellesley. For a biographical review, refer to the July Technology Review, page 487.

Mr. Carlson is survived by his wife, Carrie Elizabeth; two sons, John E. of Belmont and Harrison C. of Wilmington, Del.; a daughter, Mrs. Charles P. Smith of Cambridge and Manchester; and seven grandchildren and eight great-grandchildren.

The secretary was able to attend the funeral services in Bigelow Chapel, Mt. Auburn Cemetery, Cambridge.

Charlie Chase died at his home, Lincoln Street, Stoneham, on July 8, after a long illness. The secretary is indebted to the Stoneham *Independent* for the following account of his career. "Professor Chase was graduated from Stoneham High School in 1888 and from M.I.T., where he majored in electrical engineering, in 1892. He worked for several electrical concerns before he accepted a position as shop instructor at Tufts College in 1896. He served as professor of steam engineering and allied subjects until his retirement in 1939.

"He was listed in *Who's Who in Engineering*, where he was credited as an inventor of note. One of his contributions in the inventive field was a continuous type needle loom which greatly accelerated the production of woolen goods of the punched type. Professor Chase served as treasurer of the Republican Town Committee for a number of years. He continued his interest in engineering even after his retirement. He was a member of the American Society of Mechanical Engineers for more than 50 years and also a member of the Society for the Promotion of Engineering Education.

"His son, Donald, is an engineer in an executive capacity with the Farrel-Birmingham Company, Ansonia, Conn. His daughter Barbara's husband is head of the mathematics department at Bristol, Conn., High School. His daughter Elizabeth's husband is a professor of physics at Cornell. Mr. Chase was named profes-

sor emeritus of the Engineering Department of Tufts University in 1940. He served as a trustee of the Stoneham Public Library for 50 years and was chairman of the Board for 25 years.

"He was the son of the late Mr. and Mrs. J. Clinton Chase, longtime residents of Stoneham. His father was one of the pioneer businessmen of the town, operating a grocery business with his brother, Alfred. In 1874 they built the brick block in Stoneham Square that now houses the Middlesex County Bank and Schaefer's News Store. . . .

"Mr. Chase was professor of steam engineering at Tufts University before retiring. He was first elected to the Board of Public Library Trustees in 1898 and was named chairman of the Board in 1923. He served in that capacity until his retirement in 1948. Upon the occasion of his retirement, Mr. Fred A. Lawson, also a member of the Library Trustees, offered the following resolution at the 1948 town meeting: 'Professor Charles H. Chase, having served the Town of Stoneham as a member of the Board of Public Library Trustees for 50 years and having served as chairman of the Board for 25 years, the citizens of the town in town meeting assembled, hereby express grateful and sincere appreciation for his constant and unselfish devotion to his appointed task, during his half century of public service.' The resolution was unanimously adopted at the town meeting.

"Mr. Chase was one of the oldest members of King Cyrus Lodge of Masons and was a member of Colubian Lodge of Odd Fellows for 60 years. He is survived by his widow, Mrs. Annie C. (Hatch); by a son, Donald; and by two daughters, Mrs. Barbara Foster, and Mrs. Elizabeth Greisen. He is also survived by his sister, Mrs. George William Bell of 37 Lincoln Street, as well as by seven grandchildren."

Since the reunion, the secretary has received a letter from Sumner Ely, telling about his retirement from City Service in Pittsburgh on the first of January, at which time he was given a testimonial banquet by some 50 of his fellow citizens. Sumner enclosed the following article from the Pittsburgh *Post-Gazette*: "Sumner H. Ely, who played a major role in Pittsburgh's smoke control program, was voted a lifetime honorary membership in the Air Pollution Control Association. A former professor at Carnegie Tech, Dr. Ely, now 86, has devoted all of his time since 1941 to pushing smoke control here. His efforts have been largely responsible for Pittsburgh's losing its sobriquet, 'The Smoky City.'"

"A graduate of M.I.T., Dr. Ely had a long career as an engineer and executive in the steel industry and at Carnegie Tech before taking up smoke control. Dr. Ely will receive the award next Tuesday during the annual convention of the association in Niagara Falls, N.Y., when a similar honor will go to Major Harry E. Kunkel of Los Angeles."

Since the reunion, the Secretary received an interesting letter from Mrs. Alice M. S. Newkirk, widow of our classmate and M.I.T. staff colleague, Walter Newkirk, stating that she was coming to Boston the last of the month as a delegate from the Philadelphia Branch at the 75th

American Association of University Women Convention, then going on to Maine.

Since writing the foregoing, I have received a notice of the passing on, on June 11, of Charles Sumner Greene of Carmel, Calif. Greene was with us in the course in architecture and has always registered with the Class of '92. The secretary is indebted to Reverend W. Channing Brown of the Class of '91 for the following article on Greene's career, published in the June 11 issue of the *Monterey Peninsula Herald*.

"Charles Sumner Greene, internationally famed architect, died this morning at his home in Carmel. Mr. Greene had been in failing health for some time, and his death was not unexpected. He was 89. Private funeral services were held today at the Little-Chapel-by-the-Sea crematorium in Pacific Grove. Mission Mortuary was in charge of the services.

"Along with his brother, the late Henry Mather Greene, Mr. Greene was known as the founder of the native California style of architecture. In 1952, the Greene brothers were awarded a special citation, representing the highest honor conferred by the American Institute of Architects, as 'formulators of a new and native architecture.' At the time of his death, Greene's 40-year-old drawings of the magnificent D. L. James home at Carmel Highlands were being prepared for showing at the American Institute of Architects' centennial exhibition in Washington, D.C.

"Born October 12, 1867, in Cincinnati, Greene was descended from such well-known figures as Cotton Mather and General Nathaniel Greene of the American Revolution. He and his brother learned to use their hands at Cincinnati's Manual Arts High School. Together, they took degrees in architecture at M.I.T. in 1891. In 1893, they made a visit to their parents in Pasadena, fell in love with California, opened offices and settled down there. To the Greenes, neither the pseudo-Spanish style of architecture then prevailing in California nor the formal back-East styles seemed interpretive of their new home. Charles Greene felt that the spirit of America could not be expressed by 'copying Old World buildings . . . the Romans made Rome and the Americans—well—they are making America.' In 1913, with Greene's design of a winter home in Pasadena for Arturo Bandini, the California patio bungalow was born.

"Jean Murray Bangs of Los Angeles, who for years has been working on a book about the work of the Greenes, said of the new kind of architecture: 'It shows the desire to feel one's self as an individual, the desire for freedom, both from convention and from drudgery. It pays homage to out-of-doors. It shows the attitude of its owners toward health, comfort, and their fellowmen.'

"Fifty years after the design of that first California bungalow, in its citation honoring the Greenes, the American Institute of Architects said: 'Your gifts have now multiplied and spread to all parts of the nation and are recognized throughout the world, influencing and improving the design of small as well as great houses. You enrich the lives of the people. You have made the name of California synonymous

with simpler, freer, and more abundant living.'

"Among Greene's innovations were houses opening by walls of glass into shaded courts, pierced overhang, and many other designs aimed at achieving a unity of house and landscape, of indoors and out, of making the home a part of its surroundings. In an age of gingerbread, he had no patience with decoration just for the sake of decoration. 'Art for art's sake' he wrote, 'is good for the artists, but art for the people is better, for it makes good art possible.'

"Among the Greene and Greene masterpieces, designed as much as 50 years ago in the style now called modern, were the luxurious R. R. Blacker house (1907) in Pasadena, the David Gamble house (1909) in Arroyo Seco, and the William R. Thorsen house (1908) in Berkeley. With his family, Charles Greene moved to Carmel more than 40 years ago. After World War I he went into semi-retirement, writing many articles on art and architecture for national magazines, and designing, between 1918 and 1924, the James home at Carmel Highlands. A less well-known Greene design, though familiar to Peninsulans, is the monument to World War I dead at Ocean and San Carlos Avenues in Carmel.

"Greene's son, Nathaniel Patrickson Greene of Monterey, is sending many of his father's drawings to the American Institute of Architects for their archives. In addition to 'Pat' Greene, Mr. Greene's survivors include his wife, Alice, of Carmel; another son, Thomas Gordon Greene, now with the American-Arabian Oil Company in Saudi Arabia; three daughters, Miss Bettie Greene of Pacific Grove, Mrs. Ann Roberts of Spokane, and Mrs. Alice S. Tate, wife of a British foreign service official in Southern Rhodesia; and five grandchildren and two great-grandchildren."—CHARLES E. FULLER, *Secretary*, P. O. Box 144, Wellesley 81, Mass.

1893

Minutes of the June 10, 1957 luncheon meeting were sent to all members of the class in June.

We regret to report that word has been received of the deaths of two members of the class. Mrs. Edna Wadsworth Moody passed away on December 9, 1956, in Charleston, S.C., after a brief illness. She graduated from the Institute in 1893 and was a chemist. Her husband, Professor Herbert R. Moody, head of the Chemistry Department of the College of the City of New York, died in 1948. He was a member of the Class of 1892. Mrs. Moody is survived by two sisters, Mrs. Esther W. Hall of Richville and Miss Jessie G. Wadsworth of New York City and Standish, Maine. A memorial service was held for Mrs. Moody in Richville Chapel in Maine on June 28, 1957.

A newspaper clipping has been received advising us of the death of Fred-eric F. Low on August 9, 1957, in Los Angeles. Memorial services were held at the Oak Grove Cemetery Chapel in Gloucester, Mass. on August 25. He was employed by the Metropolitan Transit Authority for many years, retiring in

1944. Mr. Low is survived by his daughter, Elizabeth (Mrs. Cummings L. Lothrop) of Windham, Maine, and three grandchildren.—GERTRUDE B. CURRIE, *Assistant Secretary*, c/o Fay, Spofford and Thorndike, Incorporated, 11 Beacon Street, Boston.

1894

Thanks to help from class members we hope to offer some interesting and fresh notes for this new Volume 60 of *Technology Review*. We now apparently number 25 survivors out of the 138 men and women who graduated with S.B. degrees in 1894, and our records have addressees for 18 of the non-graduates who were associated with the class in undergraduate years.

First place in this grist of items is the report of the honorary degree of Doctor of Laws conferred by Lawrence College, Appleton, Wis., on James C. Kimberly of Neenah, Wis. and Tryon, N.C., president of the Neenah Paper Company, and formerly vice-president of the Kimberly-Clark Corporation of which his son, John R. Kimberly '26, is now the president. Jim has had a very interesting and busy career. Leaving M.I.T. without taking a degree, he began at the bottom in the company of which his father was one of the founders and with which his whole life has been closely associated. The following excerpt from a local Wisconsin paper gives some of the main facts of his career, and of the interesting event which has crowned it: "Lawrence (College) gives honorary degrees only to those who have not been previously honored. James C. Kimberly, son of one of the four founders of the Kimberly-Clark Corporation, and associated actively with that company for 54 years, laid the cornerstone of the Institute of Paper Chemistry a quarter of a century ago this June. Not only did he make the library possible as a memorial to his father, John A. Kimberly, Sr., but he provided funds for its perpetual endowment.

"Mr. Kimberly studied at Andover preparatory school and attended the Boston School of Technology (sic). He started his career in the paper business during summer vacations and after graduation worked in the Kimberly mill, learning the business from the woodroom to manufacturing to office management. He worked at both the Atlas and Telulah mills in Appleton before becoming a salesman for Kimberly-Clark.

"For twelve years he was the company's only salesman. During the years from 1907 to 1928, Mr. Kimberly was vice-president and director. He resigned as an officer in 1928 but continued as a director. He was elected a director of the Neenah Paper Company in January, 1898, and served as president from July, 1898 until January, 1941, when he was named chairman of the board. He resigned as chairman and director in 1951.

"He founded the Neenah Nodaway Yacht Club, and served as its commodore for many years. He still is active serving as guide and counselor. He gave the Kimberly homestead to the Visiting Nurse Association, and with members of his family set up an endowment for the maintenance of that home. He contributed

a portion of the funds for the Riverside Park Pavilion, toward the Neenah Police Rescue boat, and the Kimberly Junior High School."

The citation when he was presented for the degree indicated the high respect in which he is held in his community, for it closed with these words: "We do not want to embarrass you, and we say only that in honoring you we honor the best of responsible life in industry, in civic concern, in educational philanthropy. By virtue of the authority vested in me I confer upon you the degree of Doctor of Laws, honoris causa, and admit you to its rights, its privileges, and its obligations." Many other good things might be said regarding Jim, whose warm friendship by correspondence the Secretary has long prized. The Class would surely add its congratulations and wish Jim god-speed for many more happy years in the future.

C. G. Abbot, whose name has often appeared in these class notes and who has been research associate at the Smithsonian Institution ever since his retirement as its secretary in 1944, writes: "During the past two years I built a solar boiler of about one horse power capacity with hand tools in my wife's cellar, and installed it on the tower over the Engineering Building, University of Arizona at Tucson (January and May, 1957), where it is to be tested for efficiency under Professor Yappel at his convenience, in cooperation with the Association for Applied Solar Energy at Phoenix. As one of Dave Beck's teamsters appears to have thrown the box containing the nine-foot vacuum jacketed focus tube from a height, though marked 'Glass - Fragile,' and so forth, and with handles on both ends, the glass was shattered, and the two-inch copper focus tube bent an inch. After repair in Washington, Mrs. Abbot and I drove to Tucson in May, barely avoiding floods in Texas going and tornadoes in Missouri returning. But we got the 10-foot box there safely in her auto."

Abbot relates that a farmer in Iowa, The Association for Applied Solar Energy in Arizona, and the United States Experiment Station at Brownsville had requested him to make weather forecasts of precipitation into the 1960's for several towns, disregarding the published warning by the American Meteorological Association that forecasts beyond a week are worthless. The Arizona Association is about to publish Abbot's paper on precipitation at Natural Bridge, Ariz., and he is completing a report on Brownsville. At a meeting in Phoenix in 1955 Abbot was introduced by a government official as "the man who has done more to promote knowledge of solar radiation in the last half century than anyone else in the world." That is high praise, but undoubtedly it is true. Abbot is a scientist of the first order and could tell us much more about his research, but it would be somewhat beyond the grasp of the Class Secretary.

It is impossible to report on all those who promptly answered the appeal for news at this time, but next month we hope to continue with these gleanings. Thanks, boys. — SAMUEL C. PRESCOTT, Secretary, Room 16-317, M.I.T.

1895

Frederick W. Harris, Course XI, had his 85th birthday on September 1, 1957. His new address is 44 Grandview Avenue, North Plainfield, N.J. Luther K. Yoder, your secretary, can also qualify for a birthday at 85 years, as of September 1, 1957. During last June, Luther Yoder suffered a severe physical collapse, but fortunately, after a three week stay in the hospital, is thankful to report a good recovery and ability to master his three meals daily. Gerard Swope, who will be 85 on next December 1, is now making his first visit to Israel. — LUTHER K. YODER, Secretary, 69 Pleasant Street, Ayer, Mass.

1896

An informal class meeting was held at the Alumni luncheon in June attended by Miss Gates, Davis, Driscoll, Lythgoe, Pauly, Pierce, Rundlet and Smetters. Pennell of Exeter, who is Director of Exeter News Letter, Country Club, Member of Town Budget Committee, Hospital and N.H. Section of American Institute of Electrical Engineers, signed up but did not show up; maybe sixteen-year-old daughter Betty was graduating from high school? Smetters, Pauly and Driscoll were at dinner and concert.

Will Coolidge agrees with Jack Eynon concerning a class meeting at Cape Cod; "It might be possible to find a more accessible place . . . some Boston or New York hotel." Write your views about a meeting and suggest time and place you might be able to attend.

Walter Mulliken Stearns died June 22 in Raleigh, N.C. "He served for forty years as an executive of the General Electric Corporation. Before his retirement in 1947 he was manager of the special contracts division . . . he received many honors and awards from both the corporation and the U.S. Government for his outstanding work in research and development during World War I. He installed the first electric stove on an American battleship. He was a vestryman at St. George's Episcopal Church in Schenectady, N.Y." He and his wife Mary Haywood Stearns retired to Raleigh and quite enjoyed restoring her ancestral home "Haywood Hall" built in 1729, where she continues to live.

Morton C. Tuttle died in Newton Center on July 19; after freshman year at M.I.T. he went to Dartmouth, graduated in class of 1897 and later became a curator. He founded the Morton C. Tuttle Company after serving as general manager of the Aberthaw Company for six years. During World War I he was a member of the war industries board and manager of the Emergency Fleet Corporation.

Vic Shaw took course IV and after graduation took up mining. He writes from P.O. Box 116, Frazier Park, California: "After I retired at 75 I kept up my staff work for *Adventure* magazine, also *Fifteen Western Tales*, wrote articles for *Earth Science Digest*, also that Portland, Oregon magazine the *Mineralogist*, factual stuff I had been doing, such as debunking the idea that

the famous old Lost Dutchman Mine is in the Superstition Mountains. I'd made three expeditions there, the last for three winter months of 1946 and 1947 to make a geological survey, proving it a geological impossibility that the Jake Walz gold lodes could exist in that area. The formation definitely was against it . . . Dr. Butler of Arizona University checked my finding. That same February I jeoped into the Mazatazal Range across Rio Salada and found such a favorable formation that this Four Peaks may possibly be the site of the old Peralta gold mine which Jacob Walz claimed to have discovered again. In 1897 R. W. Porter '96, IV, and I outfitted for a three year expedition to chart that unmapped west coast of Baffinland. We sailed with Peary in the steam sealer *Hope*, taking with us ten undergraduates of several universities, landing at Cape Haven near Cyrus Field Bay. Then we cruised in whale boats to the head of Frobisher Bay and down its south coast charting the shore never before mapped. Charles Hall mapped only what he saw from its northern shores, and that bay is 40 to 60 miles wide and 200 miles long. Frobisher went only half way up and we were the third party to enter that bay at all. Our trip failed, but that is another tale. Then in 1898 I joined the Klondike stampede, that is also another story. And in 1899 Porter and I sailed with Peary on the sealer *Diana* to North Greenland, at Etah to hunt caribou and kill walrus for Peary's dog meat. From 1900 to 1915 I mined in San Juan County, Colo. Then sold fiction camping in Oregon and back in Alaska till I hit California in 1938." Seems as if we are two tales short.

Elbridge Churchill Jacobs still lives in Burlington, Vt.; Fred Damon is at the Commander Hotel in Cambridge near Dr. Rockwell's home. On my way to the Alumni Officers' Conference I called up the doctor's house but it was a little too early for John to talk. Henry Hedge had one of the boats in the squadron that escorted the towing of the *Mayflower* into Plymouth harbour. Raymond Snow '21 sent me a clipping having the obituary of Walter Stearns, for which I am grateful; this thoughtful act might well be emulated and I am sure it would be appreciated by class secretaries. — JAMES M. DRISCOLL, Secretary, 129 Walnut Street, Brookline, Mass. HENRY R. HEDGE, Assistant Secretary, 105 Rockwood Street, Brookline, Mass.

1897

There are at this time (June 1957) 68 names on our list of survivors, many of whom were special students. Only 34 replies were received to our invitation to the 60th Reunion, a luncheon at M.I.T. Endicott House, Dedham, Mass., on June 11, the day following Alumni Day. Fourteen accepted but one was unable to come at the last minute, so there was the lucky number of 13 octogenarians present including several who travelled a long distance: Judge Charles Dunn, Lock Haven, Pa.; three from New York and vicinity, viz., Tom Weymouth, George Wadleigh, and Edwin Brainerd; and the remaining nine from points in New England — Pro-

fessor Emeritus Charles Breed, Camden, Maine, Jere Daniell, H. Ballou, Gilbert Pratt, Gus Lamb, Ned Olin, Charles Currier, Bill Binley, and the undersigned.

It was generally agreed that a delightful time was enjoyed by all due to the charm of the surroundings and the excellence of the food, entertainment, and service.

Mrs. Daniell drove a number of those staying at Boston hotels to the party but could not be persuaded to sit with the group. However, she and Mrs. Winquist, manager of Endicott House, reportedly enjoyed luncheon on the terrace. At an informal business meeting we attempted to resign but were persuaded to continue temporarily. The majority were quite inarticulate, whether from lack of interest or shyness was not determined, but all seemed willing to follow the suggestions of our life-long Class committee member, Charlie Breed.

It was the sense of the meeting that final disposition of our small Class fund (about \$390) would probably take care of itself, and that no formal action was necessary.

Letters and other communications were read from a total of 11 individuals and will be quoted in this issue and those to follow. We make a start with the following:

From Howard (Pete) Noble, 1245 Shady Avenue, Pittsburgh 32, Pa., June 1: "Referring to the 60th Reunion of the Class of '97 on June 11, it would afford me great pleasure to see my classmates, but fate has decided otherwise. At the luncheon will you kindly express my regrets. I shall be present in spirit at your gathering and shall raise my glass and drink a toast to their health. Until the next reunion, good-bye and good luck."

From Irénée du Pont, Wilmington, Del., May 16: "I do not think it wise to make the trip to Boston; my eyesight is so poor that, consequently, I am cutting out all travel and such entertainment. I shall miss you all at the Reunion and wish you all well. As regards my health and well-being, it is excellent excepting that I can't see particularly well, and a long trip is a nuisance for me. Please give my regards to those of the Class who show up, and explain my difficulty."

To this we replied urging reconsideration and pointing out that possibly he could get someone to drive him to Dedham and stay at Endicott House to which he replied May 24: "Thanks for your letter of May 21; it is much appreciated, and I only wish that things could be worked out so that I could get to the Reunion. I am afraid it is out of the question, and I would be just a drag on the party because I would have to have somebody to read the road signs and other minor duties which one with bad sight cannot do for himself. Give my very best to all of the boys that turn up, and assure them that I am really disappointed that I cannot make the grade."

From Ed Hawkins, 14 Stoddard Road, Hingham, Mass.: "Congratulations to all attending our 60th Reunion and a special thank-you for the efficient manner in which you fill the position of secretary. The 'Deacon' built his 'Wonderful One

Hoss Shay' to simple specifications which I cannot meet. 'So built that it couldn't break down, 'For,' said the Deacon, "'tis mighty plain, That the weakest place must stand the strain, O no the way t' fix it az I maintain is only just, T' make that place az strong as the rest.'"—Oliver Wendell Holmes.

"Please thank Olin for his offer to see me to and from the Reunion. I probably seemed short in answering his call, but my poor hearing prevents my talking over the telephone."

From Fred Hunnewell, 2121 Massachusetts Avenue, N.W., Washington 8, D.C.: "A 60th Anniversary message, 'person to person,' would have suited me to a T (or an M.I.T.), but our schedule for the summer, this year, does not include our usual drive to New England. Last year it covered the area to the tune of 3,600 miles. So, in response to your suggestion of May 11, I am sending this written greeting to all the 'old grads' who may attend, and wish them an entertaining and pleasant day and good health to enjoy many another Reunion. Quite often do I see Proctor Dougherty and Harry Loomis, and up comes good old M.I.T. for a casual, cheery comment. My regards to you, personally, in which I am joined by Mrs. Hunnewell."

From J. Tone, 109 Court Avenue, Des Moines 9, Iowa: "Since I have only attended one reunion (our 25th at some place on Long Island Sound—I've forgotten), I was looking forward to attending our 60th with great enthusiasm. But in March surgeons found a malignant tumor in my colon and removed 15 inches of it, so the flesh is weak and the disappointment great."

"I have read with interest the life stories of our classmates in Technology Review. Some day I hope to send you mine. With all good wishes to you and all our classmates who will be at Endicott House on June 11."

On Alumni Day, June 10, eleven members of the Class attended the luncheon in the Great Court accompanied by three guests, namely, Mesdames Daniell and Wadleigh and Henry Ballou's son. An ample number of seats were reserved for the 60-Year Class and included those present at our reunion luncheon with the exception of Charlie Breed and Gus Lamb. Walter Humphreys was also present at the luncheon.

At the banquet that evening in Rockwell Cage, eight of the above group were present, and in addition three wives and one guest, Mrs. Isley and a younger sister of Mrs. Daniell joined us at the banquet.

With much regret we report the death on June 22 of Francis Henry Shepard. Although with the Class only about one year (1894-1895) after some practical training with General Motors and St. Paul Railway and Milwaukee Street Railway, he maintained interest in the Class and attended several of our reunions. Upon leaving Technology, after a period with Boston Street Railway, he became assistant to the general manager, Railway Department, General Electric Company, in charge of Baltimore and Ohio tunnel electrification in Baltimore, the first project of its kind in the United States. He

pursued further studies in electrical engineering at Johns Hopkins University. He took out several patents, and was a partner in the development and patents of the multiple unit system first used in New York City when manager of the Railway Department, Sprague Electric Company (1898-1902). He clearly was one of the distinguished engineers of the Class.

The following is from the New York *Herald Tribune*: "Bennington, Vt., June 22: Francis Henry Shepard, 83, retired consulting engineer and former director of heavy traction of the Westinghouse Electric and Manufacturing Company, died today at Bennington Hospital. He lived in New Rochelle, N.Y. During a career that saw revolutionary changes in the application of electric energy, Mr. Shepard rose from wireman and electrician to become supervising engineer in charge of the electrification of numerous American railroads."

"Born in Mason City, Iowa, Mr. Shepard began his career in electrical engineering as a wireman for the Chicago, Milwaukee and St. Paul Railway at the age of 17. Two years later he was a foreman for the Milwaukee Street Railway Company. In 1895, having supplemented his practical experience with a year's work at M.I.T., Mr. Shepard became an assistant to the late George Westinghouse. He was named director of heavy traction for Westinghouse in 1903 and for the next three decades supervised electrification of several railroads. These included the following: New York Central, New Haven, Pennsylvania, Norfolk and Western, Virginian, Chicago, Milwaukee and St. Paul, Great Northern, and the late Henry Ford's Detroit, Toledo and Irontown. Other Westinghouse railroad electrification projects took Mr. Shepard to Canada, where he supervised electrification of the Canadian National Railroad, and to Chile, where he did the same for the Chilean State Railway."

"Leaving Westinghouse in 1932, Mr. Shepard established himself as a consulting engineer. Roads he advised included the Chicago Surface Lines, New York's B.M.T. subway line, and St. Louis' Public Service line. Before his retirement in 1944, he served for two years as assistant to the director of Defense Transportation in Washington. Mr. Shepard was a member of the American Institute of Electrical Engineers, the Professional Engineering Society of New York, the Engineers Club of New York City, and the New York Athletic Club. Surviving are his wife, Mrs. Margaret Livermore Shepard; three daughters, Mrs. Franklin P. Jones, Mrs. Arthur Loecker, and Mrs. Curtis D. Sluman; a son, Francis Henry Shepard, Jr.; two sisters, Miss Anna Shepard and Mrs. John W. Roberts; a brother, Hugh Shepard, and nine grandchildren."

We have been notified by Alumni Register of the death of Herbert Lyman on June 20, 1957. As an undergraduate he was in Course VII.

The Alumni Association has notified us of the following changes in address: Dr. Mary L. Foster, Course VII, Elizabeth Fairfield House, N. Pembroke, Mass.; and William D. Bradley, Course IV, Rogerson House, 434 Jamaicaaway, Jamaica Plain 30, Mass.

In *Life* magazine issue of August 19 on the front cover in color is shown our classmate, Irénée du Pont, his son and grandson both named Irénée, as well as a portrait of his great-grandfather whose name was Irénée. An article in the issue included several views of his estate in Cuba with unusual poses of our classmate, the present patriarch of the du Pont family in Wilmington. A great-grandson of the founder of the company in 1802, Irénée was the seventh President of the du Pont Company from 1919 to 1926.

A great loss and sadness has come to Charlie Breed in the death after a long illness of his wife, Elsa, on August 17, at their home in Camden, Maine. A charming and joyful personality, she will be greatly missed.

With the compliments and best regards of Jere Daniell, R.F.D. West Franklin, N.H., a colored snapshot of the group at our 60th Reunion was mailed on August 13 to each one of those who were present. — JOHN P. ILSLEY, *Secretary*, 26 Columbine Road, Milton 87, Mass.

1898

Dan Edgerly and the writer were strolling along Memorial Drive on Friday evening, September 6, at the end of the first day of the Second Alumni Officers' Conference with mind and spirit full of amazement and happiness. Almost automatically we voiced the aspiration, "Oh, if only all the members of the Class were actually here to see the present day M.I.T.!" The recent Class Letter has given you further details. The complete story of the Conference will be found in this issue of the Review, and will repay thoughtful reading.

Now back to Alumni Day, June 10, 1957. There were 46 responses to the card; this is about half the class. This was indeed gratifying. Seven classmates attended in person: — Bragg, Chapin, Cottle, Dawes, Fenner, Jones (F.A.), and High. Roger Babson had planned to attend in person, but was prevented by last moment sickness, sending an acceptable representative, Mr. Dan Chun (see later in the notes). In addition, as guests at the luncheon in Du Pont Court were Mrs. Arthur A. Blanchard, Miss Lena Bragg, Miss Marion L. Chapin and Mrs. James Jack.

We quote greetings and comments from classmates who could not attend. Roger W. Babson, Babson Residence, 90 Seaward Road, Wellesley Hills 81, Mass.: "This note is delivered to you by my private secretary, Mr. Dan Chun, a native of the Hawaiian Islands, who graduated in 1951 the head of his class at Babson Institute. He is director of our famous Trend Service. Give my regards to all." John S. Blecker, 221 W. Virginia Ave., West Chester, Pa.: "Slow up on work before work slows you up like it has me to the point where I am permitted by the doctor to do nothing but desk work at home. Have a good reunion but slow down." Howard L. Bodwell, 1424 Torrey Pines Road, La Jolla, Calif.: "I regret very much that I will be unable to attend the '98 Get-Together on June 10. I have no suggestions to offer for your consideration. In my opinion the offices of our class are being managed with consummate ability

by those of you in charge of this important task. My best wishes to you all." William Brewster, 842 N. Peninsula, Daytona Beach, Fla.: "Greetings and wish I could be there but am still crippled and can't get around." Leroy-H. Byam, 51 Edgecliffe Terrace, Yonkers 5, N. Y.: "Best of luck to all the remaining members." Howard Collins, Post Office Box 216, Nucla, Colo.: "Am certainly disappointed for fully expected to be with you. Give my best to the few remaining Course III fellows. Wish they could see this uranium field as it is entirely different from the ores we have always been accustomed to in the old days." Alvan L. Davis, 25 Concord St., Waterbury 10, Conn.: "Cheerio! Sorry not to be present. They have not got me down yet. Hope to see you in 1958." Maurice F. Delano, Blakely Road, Haverford, Pa.: "Greetings to each one of my former classmates who is enjoying this '98 Get-Together. Wish I could be with you." Daniel W. Edgerly, 76 East Monroe St., Chicago 3, Ill.: "Greetings. Attending an M.I.T. Alumni Day celebration is a thrilling experience."

Arthur I. Franklin, 2011 N. Talbot Avenue, Indianapolis 2, Indiana: "To My Classmates of Ninety-Eight — And now to you Stalwarts of ninety-eight: Greetings! Old Buddies, from over the miles; Would I could see you — but it's not my fate; So in retrospect I'll enjoy your smiles! I bespeak for you, each, all kinds of good; Yes — as befit diastole and systole; But wow! Watch out — should you be in the mood, To hit the fast jiggles of 'Rock and Roll'! Well, my Mates, in the last 59 years, We've learned that the atom is not the same — As when we played with it, minus few fears; For now, little atom glows with much fame! And now may we stand in homage silent, To our Mates who've passed through the 'door ajar' — No grasp of the hand — but surely present — They enriched our lives — their fame moves afar."

Edward T. Foulkes, 421 15th Street, Oakland 12, Calif.: "With fond memories to all the departed and best greetings to all my classmates." Fred C. Gilbert, 1471 E. Johnston Avenue, Hemet, Calif.: "Had partially formed a decision to make the overland trip back to Cambridge this year. A new hobby reared its head to interfere. Will write later about it. Best regards." Charles H. Godbold, 200 Fernmore Street, San Fernando, Calif.: "I wish I could come but it is impossible." Clarence Goldsmith, South Main St., R.F.D. #1, Andover, Mass.: "Am saving my waning energy with the expectation of being able to attend our 60th Reunion in 1958." George Harrison, Dean of Science, M.I.T. and Honorary Member: "I shall make it a point to drop around to greet my classmates. My wife and I will have to be with the 50 year class much of the time. Looking forward to seeing you." Raymond M. Hughes, Memorial Union, Ames, Iowa: "84 years old — travel impossible." Harold W. Jones, 1303 Chichester Avenue, Orlando, Fla.: "Best wishes to all members of the Class of '98." Mabel Forrest Lambert, 70 Wannalancit Street, Lowell, Mass.: "Greetings to all and Happy Memories!" W. L. Learned: "I have lost my driver's license on account of my poor eye-sight. I have bought a new house at

578 Norfolk Street, Holliston, Mass., and shall be pleased to see any of the boys there any time." Edmund C. Little, 6818 Washington Avenue, St. Louis 5, Mo.: "Wish I lived nearer! Best wishes."

Edward N. Milliken, 303 County Street, New Bedford, Mass.: "I cannot attend because my wife is very sick. Thanks for brochure about Mr. Blanchard. What a wonderful class." Willard B. Nelson, 621 DeMott Avenue, Baldwin, N.Y.: "Had hoped to be there. Still hale and hearty. Enjoying summer at my home on Lake George." Herbert B. Newton, 214 Oak Street, Holyoke, Mass.: "Heartiest Greetings to the '98'ers. Would I might join you!" William A. Robinson, Jr., Box 504, New Bedford, Mass.: "Greetings to the Class of '98. I hope to attend the meeting next year. So here's to our 60th." Ralph R. Rumery, Barberry Lane, Short Hills, N.J.: "Sorry I cannot be there but best wishes to those who are." H. E. Sargent, 222 Arroyo Terrace, Pasadena 3, Calif.: "Best wishes." Albion W. Shaw, Field & Cowles, 40 Broad Street, Boston 9, Mass.: "Sorry, but I am too busy just at present. Hope my classmates are as well and active as I am. Best wishes to all." Lewis J. Seidensticker, 3055 Sherbrooke Street, West, Westmount Quebec, Canada: "Nothing would please me more than to be one of the gathering on 10th June; but it does not appear possible. I shall seek to acquire a cumulative stock of vim and vigour to be expended at our 60th in '58 — D.V.! Meanwhile my warmest — nay, my affectionate — regards to each and all of the Old Brigade of those days reverently remembered." George L. Smith, 9 Staples Court, East Norwalk, Conn.: "Sorry not to join the gathering. I'm getting on in years and don't travel easily." M. DeKay Thompson, 75 Mt. Vernon Street, Boston, Mass.: "Cordial greetings to all." Paul B. Wesson, 97 Vinton Road, Rochester 9, N.Y.: "Sorry I cannot attend. This 'get-together' is one more in the long list of our meetings which have marked the unity and devotion of our members to the class of '98 and to the Institute. My greeting and best wishes to those present and to all of '98." William A. Wilder, 20 Dayton Street, Worcester 2, Mass.: "Hope to be with you in '58." John E. Warren, c/o W. C. Fletcher, Columbia, Conn.: "I cannot attend and send all who attend my very best wishes." Ernest Woelfel, 219 E. Jefferson Street, Morris, Ill.: "I send greetings to all the 'old boys' and gals too and very best wishes to all."

The cards brought out the fact that three of our classmates have recently passed within the Unseen Temple, thus: Harry D. Donnell, 507 Minor Road, Orinda, Calif., on March 19, 1957; Charles W. Pendell, 331 Keystone Avenue, River Forest, Ill., on April 19, 1957; Ralph T. Horton, 13 Pearl Street, New Hartford, N. Y., on April 24, 1957.

In addition, President Edgerly has received a letter from Mrs. David H. Blossom, Anna Maria, Florida, advising of the passing of her husband and our classmate on June 25, 1957.

We have information concerning the professional careers of certain of these classmates which will appear in later issues of the Review.

New addresses: Abram French, R.D.

#2, Box 462C, Bath, Pa.; Willis L. Learned, 578 Norfolk St., Holliston, Mass.; George L. Smith, 9 Staples Court, East Norwalk, Conn. — EDWARD S. CHAPIN, *Secretary*, The Eliot, 370 Commonwealth Avenue, Boston, Mass.

1899

Alumni Day dawned fair and cool and was just the right kind of day for campus activities. C. Gardner Barry was one of the first to register, with his sister, Eleanor. Others registered were George Glover and his wife, William and Mrs. Kinsman, Miles S. Richmond, Burt R. Rickards, Miles S. Sherrill, Hervey J. Skinner and Mrs. Skinner, and Percy Witherell.

I spent the morning visiting several departments and talking with department heads instead of attending the educational conference in the Kresge Auditorium. In the afternoon I attended the dedication of the Karl T. Compton Memorial Laboratories. I knew Karl T. Compton from the date of his inauguration until his untimely death and have never known a finer teacher, administrator, scientist, or a better friend. I was glad for this chance to pay tribute to the memory of a great man. The dinner and program following in the evening were delightful, as usual, and I felt the 12 hours were very well spent.

Jake Stone writes from Berkeley, Calif., that he has had an eye operation, was in the hospital eight days, and can see much better with his new lenses.

Through the courtesy of Fred Waddell, I have a clipping from the August issue of the *Journal of the American Society of Civil Engineers* which records the death in May of William Abbott Hazard. Prior to 1922 he was manager and chief engineer of the Lackawanna Bridge Company of Buffalo, N.Y. Joining the Bethlehem Steel Company in 1922, he served as superintendent of erection and assistant engineer. Since 1931 he was erection engineer. Through the Alumni Association I have records of the deaths of Arthur R. Moody of Rowley, Mass., on December 20, 1956; Arthur A. Johnson, Little York, N.J.; and Fred Wightman, San Marino, Calif.

Representing '99 at the Alumni Officers' Conference at the Institute on September 6 and 7 were President Bill Kinsman, Miles S. Richmond, Burt R. Rickards, and Miles S. Sherrill. Each of us was greatly impressed with the ability, efficiency, and wisdom of those responsible for carrying on the high traditions of the Institute. The whole atmosphere of the Conference was one of good fellowship and confidence in the policies, present developments, and in the great future of M.I.T. Every member of the Class of '99 can and should feel that he can have his part in promoting these high ideals by contributing to the Alumni Fund. — BURT R. RICKARDS, *Secretary*, 349 W. Emerson Street, Melrose 76, Mass. MILES S. RICHMOND, *Assistant Secretary*, South of Commons, Little Compton, R.I.

1901

I will begin this year's notes with a notice concerning the 1959 reunion. In

view of the favorable responses to the recent circular letter, it has been decided to have an informal class reunion in 1959. The committee appointed for the purpose consists of Robert M. Derby, Chairman, Willard W. Dow, Executive Secretary, Philip W. Moore and Theodore H. Taft. The reunion will be held from Friday afternoon to Sunday morning at Endicott House in Dedham (just outside of Boston), which belongs to the Institute. Endicott House is ideal for the purpose; and, after inspection by the committee, a definite reservation has been made. Incidentally, there is an outdoor swimming pool which may be of interest to the aquatic members of the class. The charges should not be greater than they were at Castle Hill.

I regret to have to report the death of Mortimer Foster, VI, on July 6 at his home in West Hartland, Conn. He was a grandson of Isaac Singer, a founder of the Singer Sewing Machine Co. He was an electrical engineer and accountant. During World War I he served on the War Industries Board. During World War II he was employed at the Pratt and Whitney Division, United Air Craft Corporation. In recent years he had operated an accounting business. He was a founder of the Innes Arden Golf Club and was its president for 25 years. He is survived by his wife, two sons and two daughters.

Arthur C. Jewett, II, passed away on July 27. He had retired and was a resident of Winter Park, Florida. He was a native of Maine and with Mrs. Jewett was on his way to Maine when he died suddenly at a motel in Granby, Mass., of coronary thrombosis. He was a former professor of engineering at the University of Maine and also was superintendent of production at the Winchester Arms Corporation during World War I. He had worked for the American Bridge Company, also for Bird and Son in Walpole, Mass. He served on the National Industrial Conference Board and in 1925 became director of the College of Industry at Carnegie Institute of Technology. In 1937 he became associated with the U.S. Department of Education, retiring in 1946. He was a member of the American Society of Mechanical Engineers and the University Club of Winter Park. He leaves his wife, a son and a daughter.

Mr. and Mrs. Norman Dubois, V, celebrated their golden wedding anniversary with a "sunset party" at their home in Needham, Mass., on July 11. Norman received his Ph.D. from Brown. He has been dean of the Dept. of Pharmacy at Western Reserve University and assistant professor at Case School of Applied Science. He retired 10 years ago as professor of Chemistry at Northeastern University. He is a member of the American Chemical Society, Alpha Chi Sigma, and Sigma XI.

I have received the following letter from our class president, Lyman Bigelow in Honolulu. "From this distance it is hard to send you any news that would be of interest to the class members, but have a little now. Ralph Stearns of Bronxville, N.Y. visited the islands in May and remained for about eleven days. I am sure he enjoyed his visit immensely. On the day of his arrival the Tech Club of

Hawaii held a dinner meeting to which I took him. Oscar Horovitz, class of '22, showed a very interesting film in color entitled *The Social Beaver* which is all about Tech and its social life. Hope you all have seen it, if not do so. Being so far away I cannot help much with class matters, but I know they are in good hands with you and your very efficient assistant, Willard Dow. The success of our meetings is due to the untiring efforts of you both, for which the class owes both a most grateful thanks."

I have the following account from Ralph Stearns, XI, living in Bronxville, N. Y. "For years I have been urged to send some news of my doings, but only now have I stepped out of my usual orbit so that I have a thing or two to tell. About a year ago my wife and another good lady signed up for a seven-week cruise on the SS *Caronia* mainly within the Mediterranean Sea. It occurred to me that I might do a little traveling before it got too late and I chose the Hawaiian Isles. I planned to go by train and boat both ways as I had never been through the Moffatt Tunnel and the canyons of the upper Colorado and Feather Rivers; also, I liked ocean voyages and the Matson Line ship *Lurline* gives one something to remember. I feel well repaid for taking the extra time as compared with flying. Our classmate, Lyman H. Bigelow, met me at the dock with a couple of leis. He had been Superintendent of Construction of Honolulu for many years and on every hand there were piers, highways, parks, buildings, water works, and so on, built under his direction; in fact, most of the construction not done by the Army, Navy and Air Force. We had many visits together during the 12 days I spent on the Islands. In about half of them Mrs. Bigelow joined us, and I found her to be a charming hostess. I really had a taste of the Hawaiian hospitality through the kindness of the Bigelows. Flowers grow profusely in Hawaii and most of the tropical plants are found. A good representation of these can be seen on the Bigelows' two and one-half acre estate, interspersed with fruit trees and semi-jungle. The property is located on the shore looking across a bay to the Marine Base. Lyman has not only orchids and other fine flowers but a sizeable collection of peacocks, pheasants, pigeons and domestic fowl. Let us all wish the Bigelows many more happy years in their wonderful hide-away. I toured four of the Islands which abound in rugged mountains, canyons, lush forests, beautiful flowering trees, great plantations of sugar, pineapples and coffee, and, lastly, the volcanic craters and vast lava flows."

I need more material for the notes in the coming months. How about it? — THEODORE H. TAFT, *Secretary*, Box 124, Jaffrey, N. H. WILLARD W. DOW, *Assistant Secretary*, 78 Elm Street, Cohasset, Mass.

1902

Our 55th Reunion last June, held at the Wentworth-by-the-Sea at New Castle, N.H., was a very enjoyable affair as was anticipated. It started off during the forenoon of Friday, June 7, members arriving in sufficient numbers to make a good-sized

group for the noonday meal, while others came later. By supper time we had 18—Carlton B. Allen, Arthur L. Collier, Harold Everett, Roger Greeley, John Marvin, and their wives; Alfred Friend, Charles Kellogg, Russell Lowe, Lewis Moore, Edwin Nelson, Dan Patch, Philbrick, and J. Albert Robinson. This number was to be increased by the arrival on Saturday of Norman Borden.

Dan Patch, the first to arrive, had taken possession of a very sizeable alcove on the main veranda of the hotel, and that became our headquarters. Copies of our Senior Portfolio, old Techniques, and pictures taken at previous reunions piled on a center table helped us to get oriented and able to take up where we had left off when we last met. The weather was beautiful, the Isles of Shoals clearly visible, and relaxation and reminiscing was the order of the day.

Our formal class meeting was held that evening in a small room set aside for our use by Mr. Smith of the Wentworth. Moore was elected president; Kellogg and Robinson, vice-presidents; and Philbrick, secretary-treasurer. The meeting then adjourned but those present remained to enjoy viewing some Kodachromes of Hawaiian scenes which Dan had thoughtfully brought along.

Saturday forenoon most of our group took a trip into Portsmouth inner harbor and around the island of New Castle in a 40-foot motor launch. The route enabled us to see the Portsmouth (Kittery, Me.) navy yard, historic Odiorne Point, the ancient Fort William and Mary, and so forth. The afternoon was passed without any special program but in the evening we had our class dinner in the Sunset Room, which had been reserved for our use. Charles Kellogg served as toastmaster and did an excellent job. Greetings were read from several members of the class who could not be present, namely, Bob Edwards, Bob Williams, Lydia Weld, Louis Cates, and Kenneth Grant. The following vital statistics were gathered about those present: the 12 men had 64 grandchildren; Greeley and Kellogg tied with 12 each, while Friend came next with eight; two second marriages brought in nine step-grandchildren. Three had observed their golden wedding anniversary—Kellogg, Moore, and Patch—four were still in active regular jobs. All of the New England states were represented, and Colorado by Marvin, Maryland by Kellogg, New York by Allen, and Pennsylvania by Everett. The meeting ended with a talk about the history of Portsmouth by James B. Smith, president of the Wentworth. Mr. Smith, it was interesting to learn, was one of the first graduates of the Cornell course in hotel management.

Sunday morning the group began to break up with the departure of Kellogg, Lowe, and Borden. Those who remained passed the forenoon in various ways: some attended church in Portsmouth and some attended the services conducted by the Yankee Division organization which was meeting at the Wentworth. After dinner Friend, Philbrick and Robbie "shoved off." In the evening Dan Patch entertained those remaining at the Wentworth with a showing of Kodachromes taken in

and about Friendship, Maine, his summer stamping ground. Dan dubs this particular show "Friendship in a Camera" with apologies to Edgar Bergen and Charlie McCarthy and their "Friendship in a Cup."

Monday morning the Reunion was over and those who could returned to Cambridge for Alumni Day; the class was represented at the luncheon by the Colliers, the Everetts, Lowe, Marvin, Moore, Nelson, Patch, and Bob Williams. By the time of the banquet in Rockwell Cage the '02 group had shrunken to the Colliers, Marvin, Moore, Nelson, and Patch. Kellogg summed up the Reunion: "Russell Lowe and I both agreed that it was the best class reunion we had ever attended. The number was large enough to give real esprit de corps but small enough to enable every one to make close contact with every one else. The ladies gave a delightful atmosphere to the gathering."

We wish that our entire notes could be in this same cheerful line but death has made heavy inroads on our numbers. On May 8 Alfred W. Allyn, Course IV, passed away in Montreal where he had long lived. He was a native of Lawrence, Massachusetts, the son of Warren Chandler and the former Abbie Maria Doland, and lived there until he entered the Institute from Phillips Academy, Andover. Immediately after graduation he went to work for the United States Steel Corporation, which was then in its infancy, and remained with that organization until his retirement at the end of 1946. His first assignment was in the engineering department of the Carnegie Steel Company in Pittsburgh, but in 1907 he was transferred to the United States Steel Export Company office in Montreal as assistant manager. He continued in the sales organization in various capacities in Winnipeg and Montreal and ultimately attained the position of assistant regional director.

He had a great interest in sports and outdoor life. As a youth he participated in football and track but was particularly outstanding as a canoeist. His love of camping and fishing persisted for many years. After going to Canada he became an enthusiastic devotee of curling and won many trophies. Following his retirement his chief hobby was gardening. He was past president of both the Engineers Club of Montreal and of the Montreal West Curling Club. He was for forty years a member of the Rotary and of the American Iron and Steel Institute.

He is survived by his wife, the former Annie Mae Pinkham of Haverhill, Mass., six children, 14 grandchildren, and two great-grandchildren. The children are: Mrs. R. H. Stevenson of Shawinigan Falls, P.Q.; Mrs. H. A. Guggenheim of Beverly Hills, Calif; Mrs. T. R. Clarke of Toronto; Mrs. D. A. Ross, Montreal; Horace W. Allyn, West Orange, N.J.; and J. Warren Allyn, Montreal.

Irving W. Reynolds died suddenly on June 3 at his home in Foxboro, Mass. At the time of his death he was vice-president of the Foxboro Company widely known for its precision recording instruments. Ike had been a factor in bringing the business into Foxboro years ago. Early in his career while associated with

the Bristol Company of Waterbury, Conn., he was sent to Foxboro to investigate a plant site and his favorable report resulted in the Bristol Company settling there, bringing with them the assets of the Standard Gauge Manufacturing Company of Syracuse. This combination later was named the Foxboro Company. Originally the firm was small, but it now employs over 2,000 and is the leading industry of the town. Ike grew with it and became one of its vice-presidents and factory manager.

He also took an active interest in the community life of the town as the following editorial, which appeared in the *Foxboro Reporter*, testifies—They called him "The Elder Statesman." And the name fitted him well for he had stature, the keenness of mind, an insight and understanding of problems and people and that elusive quality called 'the common touch' that endear such rare individuals to their fellowmen. Irving W. Reynolds spent nearly fifty years of his life in Foxboro. It was a fortunate day for the community when he reported favorably on Foxboro as a site for the operations of the industry which now means so much to the town. Through the years, Mr. Reynolds gave of his talents and energies to make this town a better and happier place in which to live. Many sought him out and benefited from his counsel. Warmth and friendliness he gave to all who knew him, even slightly. The empty feeling that comes with the death of a beloved figure has touched friends and neighbors of Irving Reynolds. The community mourns his passing and extends the hand of sympathy to Mrs. Reynolds and her son, daughter-in-law, and grandchildren."

On June 10, Lester C. Hammond died suddenly at the home of his son, Bradford, whom he was visiting, at Lakewood (Cleveland), Ohio. Lester had been retired for some years and resided at Fort Lauderdale, Fla. Hammond had an active engineering career. From 1908-1910 he was resident engineer for the Panama Canal Commission, and later was associated with the Turner Construction Company and the Elliott C. Brown Company. In 1934 he entered the municipal service in New York City as chief engineer of the Borough of Manhattan and during this term helped design the Hudson and East River Parkways and the World's Fair. He resigned this position in 1942 to undertake a construction project in Brazil. He was a life member of the American Society of Civil Engineers and a member of the New York Municipal Engineers, the American Institute of Consulting Engineers, and the Professional Engineers of Maine and New York. Besides his son, Hammond left two brothers and three sisters.

James Carleton Howe died after a long illness on June 28. At the time of his death he was a retired vice-president of the First National Bank and Old Colony Trust Company in Boston. Following his graduation he had joined the engineering department of the American Telephone and Telegraph Company in Boston, transferring to its subsidiary, the Missouri and Kansas Telephone Company at Kansas City, and subsequently becoming manager of the St. Joseph Exchange. In 1909

after a brief interval in Chicago he returned to Boston to become vice-president of the American Trust Company but resigned three years later to become vice-president and general manager of the Saco-Lowell Shops. In 1915, he became vice-president of the Old Colony Trust Company, which later became affiliated with the First National Bank.

At the time of his death Howe was a member of the Board of Managers of the Massachusetts Eye and Ear Infirmary; vice-president and trustee of the New England Conservatory of Music; and vice-president of the Provident Institution for Savings; trustee of the Harvard Mutual Foundation; and a director of the Baystate Corporation. He is survived by three sons and a daughter.

Those who were at the reunion will be shocked to learn of the death of Alfred Friend on August 4. He was playing golf with his daughter, Mrs. Joseph B. Miller of Belmont, and friends, when he collapsed and died on the fairway.

Friend was a native of Gloucester but lived in Manchester, where he prepared for the Institute in the schools of that city and Salem. After graduation he spent a year with the Simplex Electric Company in Cambridge, then two years with the Edison Company and one year with the American Telephone and Telegraph Company, both of Boston. He then turned west and joined the Engineering Department of the Northeastern Telephone Company in Minneapolis. After a few years in that position he went with the Bell Telephone Company at Omaha, Neb., and remained until his retirement about 30 years ago. He is survived by three daughters: Mrs. Miller, with whom he made his home; Mrs. Putnam Cilley of Sharon, Mass.; and Mrs. Russell S. Ireland of Ogunquit, Me. — BURTON G. PHILBRICK, *Secretary*, 18 Ocean Avenue, Salem, Mass.

1903

Gleason reports the marriage on June 29, 1957, of his son Dr. Anthony Howe Gleason to Janet Margaret Grimler, both of Westfield, N.J. Children by a previous marriage took part in the ceremony. The son was best man and the daughter played all the organ music for the service.

News of the death of Frank G. Cox on May 29, 1957, in Wilmington, Del., was received too late for the July Review. Although an invalid for a number of years, he was in the Delaware Hospital only 12 days. Having retired from active business on account of illness more than 20 years ago, he and his wife, Mrs. Anna Sellers Cox, spent many winters at Coconut Grove, Fla. He was born in South Hadley, Mass., and spent his early life in Holyoke, Mass., attending Holyoke schools and graduating from M.I.T. as a Civil Engineer. He first worked for the Otis Elevator Company in California, later for the Edge Moor Iron Works in Wilmington, Del. After several years he returned to the Otis Elevator Company and was working for that company in Philadelphia, Pa., when he retired. He was one of the earlier members of the Wilmington Rotary Club. He also belonged to the Sons of the American Revolution and the Sons of

Colonial Wars. In addition to his wife, he is survived by two sons, F. Gardner Cox, Jr., now with the Sparks Corporation in Philadelphia, and William Sellers Cox of Darien, Conn., assistant to the president of *The Bride's Magazine*; also by a sister, Mrs. Raymond P. Tarr of Tacoma, Wash., and three grandchildren.

Again the Grim Reaper has taken one of our more active classmates. While recovering from a minor operation, our Class Agent, Carlton F. Green, suffered a series of set-backs and finally succumbed to pneumonia June 29, 1957, at his home, 23 Curtis St. Egypt, Mass. He was born in Spencer, Mass., attending the public schools there and graduating from M.I.T. in Mining Engineering. Associated with Stone and Webster for many years, he supervised the construction of numerous large plants throughout the country. One of these was the Edison Generating Station at Weymouth. He was a member of the Masonic Lodge in Spencer for 50 years; a member of the Royal and Select Masters at East Weymouth and a Knight Templar. He served on the Scituate High School Building Committee for the recent addition and remodeling. Since 1940 he had been associated with the Montaup Electrical Company in Somerset, Mass. Besides his wife, Mrs. Florian M. Green, he leaves one brother, Herbert H. Green of Spencer, Mass., and two sisters, Miss Sybil Green of Spencer and Mrs. Marian Whipple of Lexington. He is succeeded as Class Agent by Thomas E. Sears, 31 St., James Ave., Boston.

Clarence Joyce writes from Lucerne, Switzerland, of taking a motor trip with his wife, Ruth, to San Remo, Italy, via Torino and returning via Stresa. He says the bleak St. Bernard Pass contrasted greatly with the beautiful Avacosa Valley. Torino with its fine park on the River Po had miles of arcade, displaying luxury goods. The Fiat Automobile Plant is also a point of interest. At Cuneo, many wrecked bridges remain to show the war's devastation. They found San Remo on the Riviera a busy watering place, but the hotel where they stayed, a kind of oasis. It included a large swimming pool surrounded by many palms and tropical plants which were beautiful under the flood lights. There was music in the afternoon at the pool and in the evening on the terrace, making a perfect spot for relaxation. Stresa with its Isola Bella and Baromee's Castle has much of interest for the art lover. St. Gothard Pass was the gateway for the return to Switzerland. Our thanks are due to the Joyces for this glimpse of Old World scenery.

The death of David D. Mohler, X, in Phoenix, Arizona, has been noted but no particulars are as yet available. He was for many years with the Solvay Process Company in Syracuse, N.Y. Your secretary would appreciate receiving any information about his career.

We learn with regret that Ralph B. Yerxa, III, suffered a stroke in August and was taken to the hospital in Richmond, Va. He is the husband of Elise Wilmer of that city.

Tom Sears and your secretary were in attendance at the recent Alumni Officers Conference at which the important place M.I.T. has taken in the national economy

was forcefully demonstrated. As well as being an enjoyable occasion, the conference helped greatly in generating interest in Institute affairs. — F. A. EUSTIS, *Treasurer*, 131 State St., Boston 9, Mass. LE-ROX B. GOULD, *Secretary*, 36 Oxford Rd., Newton Centre 59, Mass.

1904

First some comments on Alumni Day. Our class was represented by Mr. and Mrs. Hayward, Mr. and Mrs. Hiller, Harry Kendall, Mrs. McCormick, Mr. and Mrs. E. H. Russell, Jr., and Arthur Smith. It was a beautiful day and we had a pleasant time. The new Compton Laboratories were dedicated and are quite impressive. We were especially pleased to see the Hillers, and Everett was looking well after his heart attack last winter. It was therefore a shock to hear only three weeks later that another attack had caused his death. Services were held on July 3 at Hyannis and the class was represented by Mr. and Mrs. Milliken and Mr. and Mrs. Hayward. In lieu of flowers, a contribution was made from our treasury to the building fund of the Hyannis Federated Church in Everett's memory. A note of thanks was received from the church and one from Mrs. Hiller. Everett took an active part in class affairs and will be greatly missed. For some years he has been living in Centerville, on the Cape and those who attended our fiftieth reunion have pleasant memories of the tea given us by the Hillers at their attractive home. The following is quoted from the note received from Mrs. Hiller: "He loved every one of you and the highlight of his year was seeing you at Alumni Day, for the association that mattered to him most deeply was that he belonged to the Class of 1904. I can only be happier than ever now to think of his 50th reunion, when part of it took place in our own home."

The newspaper quotation below announces the death, on June 21, of another classmate, Ernest L. Rupf of Windham, N.H. "Born May 31, 1880, in this city, following his graduation from Massachusetts Institute of Technology in 1904, he made his home in Staten Island, N.Y. Upon his retirement as president of the Bayonne, N.J. Bolt and Nut Company, in May of 1935, he took up residence in the New Hampshire community. Mr. Rupf was a member of Christ Presbyterian Church, Grecian Lodge, A.F. and A.M., M.I.T. Alumni Association, and the American Society of Mechanical Engineers." Gus Munster received a note from Mrs. Rupf, part of which was as follows: "Ernest was always interested in the class news in Technology Review and for several years this was one of the items I read to him regularly. He died on June 21 after a long illness of the heart, but by far his worst affliction was being blind — nearly five years, partially in the beginning and totally the last six months."

Ralph Ingram sends the following reminiscence of Rupf. "Ernest was my freshman roommate at 160 Newbury. One day I suggested going down town for a beer. He was not interested. I told him he was no sport. He replied 'Suppose some night I ask you to go down town for a glass of milk?' I said I could see no thrill in that,

Ernest replied that is exactly the way I feel about beer. As a German I have had beer since I was six."

A copy of the April issue of the *Journal of the Boston Society of Civil Engineers* has recently come to our attention. It contains a memorial to our late classmate Dick Hale and, although too long to include as a whole, tells of a distinguished career. Excerpts are as follows: "General Hale's military career started when he entered the Massachusetts National Guard in Artillery Battery A, where he was commissioned a Second Lieutenant in 1908, Captain in 1913, Major and Lieutenant Colonel in 1916, when he entered active service with the U.S. Army on the Mexican Border. In the First World War he served as Colonel with the 101st Field Artillery in France on the staff of the Second Army Corps and returned as Chief of Staff of the 26th Division. Colonel Hale was decorated with the distinguished service medal. After the war his military interests continued in the National Guard, in which he served as Brigadier General from 1922 to 1929. On his return from France, he began his long and distinguished career for the Commonwealth, when he was appointed by the Governor as one of two Associate Commissioners in the Waterways Division of the Massachusetts Department of Public Works. He continued in that office until a reorganization of the Department in 1927 when he was appointed one of the Associate Commissioners, with jurisdiction over both Waterways and Highways. Later, in 1938 upon the re-establishment of the Division of Waterways in the Department, he was appointed Director of that Division, which office he held up to his retirement in 1955. It is in his thirty years as Director of the Waterways Division that General Hale will be best remembered. This was an administrative position, dealing with engineering matters. The Division's jurisdiction over tidal lands of the Commonwealth included the development of harbors, the Port of Boston until 1945, State Piers of Gloucester, New Bedford, Fall River, Plymouth, Bourne, and all shore protective works and dredging channels. General Hale's great knowledge and experience in all matters of hydraulics of rivers and harbors, beach and shore made a great contribution to the solution of many problems that came to the Division. His work included not only the general engineering work but many dealings with engineers; local, state and Federal authorities; legislators; committees; and the public. Those who came in contact with General Hale must have been impressed by his personality, his open frankness and fair dealing, his integrity, and also a certain serenity, which, while it did not prevent a strong stand and effort for what he thought was right, did not become ruffled at opposition. His was a great contribution to the service of Massachusetts."

We are glad to report that Mr. and Mrs. Harry Rollins returned home safely from their 'round the world tour. You will see from the following extract from a recent letter that they had a grand time. "Glendora and I arrived in New York May 7 and we had to be in LaJolla on the 14th so we saw very little of our families in New York, Philadelphia, and Chicago.

Our trip was wonderful but, as you suspected, somewhat strenuous. Our 14 day trip in Africa was the most unusual part. 2000 miles by air up into the Belgian Congo and then 2000 miles by auto through the Congo and through British East Africa. Then another flight from Lake Victoria to Zanzibar where we joined the cruise again. The next most thrilling experience was during the seven days the *Caronia* was at Bombay when we, with 20 other passengers, went by air to Jangipur, New Delhi, Agra, Benares, and best of all into the little kingdom of Nepal way up at the foot of the Himalayas to the capital Katmandu. The country, as you probably know, was closed to the outside world for about 100 years until seven or eight years ago. The current *National Geographic* shows pictures taken there at the time of the coronation of the new king. We also did the more usual things: went to Ceylon, Singapore, Bangkok, Bali, Manila, Hong Kong and back by way of San Francisco and the Panama Canal. It was something that I had always wanted to do and it proved to be a most rewarding experience. For the past two weeks, we have enjoyed, and hope to for the next four weeks, baby sitting for 25 per cent of our grandchildren, three granddaughters, ranging from four years to 13. They keep us pretty busy but it is a lot of fun. One's father is an attorney in Philadelphia, and the other father is an attorney in New York City. They, with their respective wives have gone to Europe for a month or more to attend the American Bar Association meeting in London and do some sightseeing on the side. The three girls flew out alone and we met them in Los Angeles.

The following is quoted from a letter from Frank Davis: "In reading the Review last evening I noted that you were in Birmingham, Michigan this spring and tried to get me on the phone without results. This spring was rather mixed up. My daughter was married on May 11. I was out of town in my Saginaw office on May 15, and May 17-21 we were at the Ranch (my club) in the northern part of the lower peninsula, Black Rock Ranch, near Onaway. Besides there is no regular help at the house these days to answer the phone. So far in July I have been alone except for the week end when my daughter and husband came home from Columbus. Mrs. Davis has been all this month at Hyannisport, Mass. with Mrs. W. R. Kales ('92). Mrs. Kales has had a summer place there since about 1910. I have been up to the Ranch for ten days alone and also to the summer session of the Michigan Oil and Gas Association. I don't go out of the state much but do go to the Ranch where we have 12,000 acres and 30 members. It's comfortable and out in the woods with the elk and the deer; you can fish for trout if you like but I prefer to stay in the boat on the lake. I also have a jeep to ride around in (I share this jeep with R. G. Kales, Tech'28). Mrs. D. will be back in a few days and I hope to be up at the Ranch again by the end of next week." It sounds as though Frank was leading a tough life. We are sure you all sympathize with him.

Frank mentions the fact that his wife was vacationing on old Cape Cod. The

Guy Palmers and the Maynard Holcombes also put in some time there. The Palmers stopped long enough in Boston to say "hello" to us and the Currier Langs report a call from the Holcombes as they were passing through Norwalk, Conn. The Langs and the Haywards spent a pleasant week end in June exploring Currier's ancestral acres and surroundings with Exeter Inn as headquarters.

The following is an excerpt from the Quincy, Mass., *Patriot-Ledger* of August 8. "The Quincy Y.M.C.A. will build a girls' resident camp at Spectacle Pond in Sandwich, (Mass.): The site chosen for the camp will be Hayward's Point, a wooded area across from the Camp Burgess waterfront (a boy's camp operated by the Quincy Y.M.C.A.). The camp will be called Camp Hayward. Both area and camp are named in honor of President Emeritus Carle R. Hayward who for 30 years served the Quincy Y as president of the board of directors."

The *Journal of Metals*, June issue, shows a picture of George Harrington receiving the 50 year certificate and A.I. M.E. Legion of Honor Medal.

Occasionally we find one of our classmates who in spite of creeping old age is still up and doing things. Now comes Karl Peiler with his picture in the Hartford (Conn.) *Times* accompanied by a story of some of his activities part of which are as follows: "A Hartford inventor who has spent more than half a century in the engineering profession and holds 178 patents has been given the status of Fellow in the American Society of Mechanical Engineers. Honored by the Society is Karl E. Peiler, vice-president and consultant for research, development and engineering at the Hartford Empire Company Division of the Emhart Manufacturing Company. Mr. Peiler was born here November 25, 1883. In 1904 he was graduated from Massachusetts Institute of Technology with a bachelor of science degree in mechanical engineering. He was awarded a doctorate in engineering from Alfred University in 1951. Mr. Peiler is generally recognized, along with Michael J. Owens, as one of the two outstanding figures in the development of glassware manufacturing machinery. In 1940 he was awarded the Modern Pioneer medal by the National Associations of Manufacturers for "distinguished achievement in the field of invention." The 73-year-old engineer is perhaps best known for introducing in 1912 the Hartford system of molten glass feeding and bottle making. The system, parcelling out molten glass from a melting furnace into separated viscous gobs which are dropped into molds to form bottles and other glassware, was commercialized three years later under the name Hartford Paddle Feeder. He later developed the Hartford P-N Feeder, giving definite artificial shapes without the use of molds to gobs of hot viscous glass suspended in air. The shapes were then dropped into molds for additional molding operations in forming glassware. His foremost development came with the Hartford Single Feeder, completed in 1922, a device which gave greater accuracy of control, higher efficiency and higher speed to his previous processing methods. He developed and

devised various types of glassmaking machinery for bottles, jars and tumblers as well as equipment for treating and conditioning molten glass."

You may recall from the last edition of class notes that the Gene Russells took an automobile trip to Chicago last spring. They checked up on the Guy Palmers and Gene had a pleasant lunch with Gus Bouscaren. The latter, since retiring from Stone and Webster, has been keeping active with various engineering problems. So make note of another classmate who is still able and willing to work.

The annual get together of class agents and class officers was held on September 6 and 7. Our class was represented by Russell and Bouscaren so they had a chance to repeat their Chicago lunch. It was pleasant to meet E. F. Izard '29. Since his class is just 25 years younger than ours he admits he sometimes reads these notes. We hope he got back to Buffalo safely. — EUGENE H. RUSSELL, JR. 82 Devonshire Street, Boston, Mass., CARLE R. HAYWARD, Room 35-304 M.I.T.

1906

With greetings and the hope that you have all enjoyed the summer we start another year of contacts with you through these Class Notes, as well as by letter to, and from, you—and we do appreciate hearing about your doings, your family, your interests, your work. Next to being there is reading about Alumni Day, and the July Review certainly covered in detail the Symposium talks, the luncheon, and so forth. Hope you read it all and could visualize what an interesting, pleasant, and profitable day it was. The regulars from '06 were on deck—Bill Abbott from Wilton, Walter Davol from Manchester, Jim and Alma, Sherm and Bertha, Tom Hinckley and Georgiana, Ned and Marion, Charlie Kasson and Mrs. Spence. Mike Gibbons came on from Dayton and Art Sherman from Washington, D.C. Stew Coey and Betty blew in for lunch on their way to Squirrel Island.

It was good to see Art. He missed our 50th because of his wife's illness and she has since passed on. During the social hour before the banquet Mike kept us in stitches with his fund of stories and travel tales. After the feed twelve of us joined what proved to be a very enthusiastic audience in the auditorium to enjoy thoroughly the Pops Orchestra with Arthur Fiedler, its conductor since its inception 28 years ago. Marion and I have attended at least one performance every year of his Esplanade Concerts in the shell on the banks of the Charles River Basin, with the Tech dome and a glorious sunset in the distance. His program selections in Kresge that night were balanced and exciting, including the four encores, every one received with prolonged applause from the packed house; but we raised the roof at the conclusion of the Piano Concerto in A Minor, Op. 54, by Schumann, faultlessly performed by the soloist, Miss Tana Bawden, whose looks and grace matched her playing—TOPS. How anyone can memorize what she played is beyond me! All up for the Stein Song—then goodnights and good-byes, the slowly untangling cars, and an-

other grand Alumni Day was over.

More recently four of the class have been together, at the second biennial Alumni Officers Conference, September 6 and 7, on campus, room and meals being generously furnished by the Institute for some 350 in attendance. Your three class officers were glad to have with us Dick McKay who is the Regional Chairman of the Educational Council in his area around Iowa. The program is given in this Review, so all I need to say is that we seized the opportunity to discuss class affairs, found the talks interesting, informative, and forward-looking, and were definitely out of our element in the Computation Center as well as during the explanation, and inspection, of the Atomic Clock!

Straitsmouth Inn in Rockport seems to be a favorite with some of the class who like the rocky shores, the clean salt air, the everchanging ocean, AND good seafood. Early in September Marion and I drove around Cape Ann and out to the Inn, and it surely is an ideal place for a restful vacation—or just a day's visit and a meal. Tom Hinckley and his wife had been there for a day early in July and found Jim Wick there, from Youngstown, Ohio. I knew Jim had built a house at Pigeon Cove on the other side of the cape, so I wrote him at length and he replied in August giving me a detailed account of his business career and his numerous other interests and activities—and they are many and commendable, as some of you may have learned at the reunion which Jim and his wife Clare attended. Since our 40th he says he has been back many times, having been one of the Honorary Secretaries (prior to the formation of the Educational Council) for whom Dr. Compton and Dr. Killian held occasional meetings. I can well believe that these meetings were inspiring, as Jim says, adding, "We have sent many boys from this district and I am glad to say they performed well."

When I wrote I said I was sorry I couldn't get down to see them as we were leaving for a visit in New Rochelle and to our family in Connecticut to be on hand when EBR III returned from the Scout Jamboree at Valley Forge. That gave Jim an opening, so: "I was one of the organizers of the scout movement here way back when was it—I think in 1912, about three years after the original incorporation in America. I have been treasurer, scout executive, and president—up to my ears in the movement which is a marvelous activity." Then he says: "You wanted to know what I have been doing with my SPARE time! I have never had any. Have been the collector of the greatest assortment of goat feather jobs—a trustee of the Y.M.C.A. since the beginning of time, an elder in the Presbyterian Church for years and years—was instrumental in firing a deadhead minister who was letting our church die on his hands. . . . We have just recently finished a campaign to rebuild the 'old plant' which was the first church in the Connecticut Western Reserve, and my great-grandfather's brother was its first minister. Being interested in educational facilities he . . . took over the Educational Department of the 'Y' schools here in 1931 and we have developed that

into a separate entity, Youngstown College and now Youngstown University, with over 5,000 students, the William Rayen Engineering School, Arts College, Music School, and Department of Education as well as a strong Athletic Department. I was chairman of the board for 25 years—and it has been a joy to see this develop right in our own town." To keep busy Jim had been a member at one time or another—perhaps still is—of the Youngstown Club and Country Club, on the board of the Campbell Neighborhood House (the Hull House of our steel district), National Founders Association, American Society of Mechanical Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society for Testing Materials and the American Foundrymen's Association, of which he was president in 1936. He says: "I have been a member of the Buckeye Art Club for years. We are a bunch of fellows from all walks of life who like to go out and paint pictures. Instead of"—get this you golfers—"digging up the turf with a midiron we would rather paint the landscape in beautiful colors."

Jim and Clare Mary (Dryer), whom he married in 1908, have a family to be proud of, too. A son Warner A., Williams '32, won the John Moody Scholarship to Exeter College, Oxford, where he won a "First"—then a fellowship at Chicago University with which he has been connected most of the time since, in the Philosophy Department, being at Princeton last year doing advanced study under a Rockefeller grant. Warner likes Rockport, too, and to quote Jim: "He has three wonderful children—Jimmy the oldest probably going first to Williams then to Tech for advanced study. The third child, young Johnny, is a great mechanic and I certainly think he will go to M.I.T. His daughter, Laura, could go if she wants to—she has the goods because she told me that she won twenty-five bucks at Princeton last June because she stood highest in science and mathematics at high school. Well they all take after their grandmother, I guess!" His oldest daughter, Mary, Mt. Holyoke '37 and Johns Hopkins, lost her first husband, a doctor in the Marines who was killed by a Japanese sniper when Vandergriff went into Tulagi. "Mary married again after the war and has just built a house in the corner of our ten acres which is practically in the middle of the community, not far from our great Mill Creek Park, a 2,400 acreage and—you guessed it—I have been one of the three Park Commissioners for 20 years. In this park we have a 36 hole golf course, three lakes, about 20 miles of drives, and all sorts of picnic centers." Another daughter, Emily L., Mt. Holyoke and a Ph.D. in Organic Chemistry in '51 at Tech, is with Arthur D. Little in Cambridge. She lives year-round in Rockport—right opposite Motive No. 1, and loves sailing. About Harriet D., Vassar '45, Jim says: "My youngest daughter married a Nantucketer—well, you know what that means. She has to go to Nantucket! They have two wonderful children."

You would think from the above that Jim Wick had had no time for business through the years, but not so! He was

born and raised and, except while at Tech, has always lived in Youngstown — for a few years was with the Crystal Ice and Storage Company, becoming General Manager and Treasurer; but by about 1919 he joined the Falcon Bronze Company which had started in 1890, and for many years was its president and general manager. "In 1953 I sold my business after a fight with the C.I.O. I refused to knuckle down to their outrageous demands and the damnable activities of their misguided membership." WE didn't have any courses in the Humanities but the Wick story is an inspiring example, I think you will agree, of the worthwhile participation by — yes, hundreds — of our classmates in town, city, state, and federal service, church schools, scouts, relief and charities — the list is a long one. I hope many of you will follow Jim's example and give me the works, literally speaking! Figuratively speaking that's what he gave me, for he concluded in this wise: "You had better take your type machine out and tell me about yourself — take your hair down Ned. Take it easy. Warm regards. Nice to talk to you." So some month when other material is scarce I'll run my story.

In the July issue I reported that Harold Coes and Agnes were planning a European trip and since their return Harold has sent me a long letter telling in detail where they went and what they saw, a wonderful tour which will be included in a later issue. A long article in *The Lowell Sun* of June 12 tells of a signal and well-merited honor given to Herb Ball, II, by an honorary degree of Doctor of Science at the Commencement Exercises of Lowell Technological Institute. This recognition of H.J.'s 49 years at L.T.I. must have been a thrilling experience for his wife, Fannie J. (Babcock) and their two married daughters. The article covers Herb's career in full and will be included in future class notes. That also holds for a story about Herbert S. Philbrick, II, retired Dean of Men at Northwestern University. Abe Sherman, VI, wrote back in August that he had been in the hospital for two successive operations in June. He had to miss Alumni Day this year because of a severe arthritic condition and his wrist troubles making it difficult to write. Ralph Patch, XI, hasn't improved much since he returned from Florida and his daughter is staying with him, I believe. Jim called to see him early last spring and found him seriously handicapped. On September 18, after these notes were sent in, Ralph died.

Several address changes: Willis S. Caypless, III, from 1003 E. Vine Avenue to 2836 E. Vanderhoof Drive, W. Covina, Calif.; Charles H. Chase, II, from Glenbrook, Conn., to Box 852, Stamford; Charles A. Holmquist from Albany to Box 202, York Village, Maine; Dr. Helen R. Hosmer, V, from Middle Grove, N.Y., to Griswoldville, Mass.; and Dr. James H. Means to 60 Mount Vernon Street, Boston 8. Guy Ruggles, III, wrote the latter part of July that his wife, Faye, had died on January 6 after an illness of almost two years. I have sent a letter of sympathy and will include some of Guy's letter in the December notes. It is with sorrow and deep regret that three more

names are added to the lengthening list of our classmates who have passed on. Henry R. Patterson, II, died June 3 in Berkeley, Calif. William J. Lumbert, I, died June 19 in a Boston hospital. Nugent Fallon, I, died July 24 in a New York hospital. A letter of condolence has been sent to each widow and details of their careers, and so forth, will be included in future Class Notes. — EDWARD B. ROWE, *Secretary-Treasurer*, 11 Cushing Road, Wellesley Hills 81, Mass.

1907

For the men of '07 who, through a combination of good health, favorable personal economic and business conditions, and class interest, attended some or all of the events incident to class and M.I.T. activities on June 7-10, 1957, those dates will undoubtedly always be memorable and unforgettable. A fine account of the programs of June 7 and of June 10 was given in the July issue of the Review, so I will relate only facts regarding '07 participation in these days. The following classmates and family members attended the graduation exercises of the M.I.T. Class of 1957 in Rockwell Cage during the forenoon of June 7: Dick Ashenden, Jim Barker, Bill Bradshaw, Carl Bragdon and his daughter Miss Helen Bragdon, Leon Chaffee, Arthur Christensen, Bill Coffin and his wife, George Crane, Paul Cumings and his wife, Leverett Cutten, Fred Dempwolf and his wife, Kirk Dyer, Bill Egan, Harold Farrington and his wife, George Griffin and his wife, Hud Hastings, Ralph Hudson and his wife, Roy Lindsay and his wife with their daughter and her husband (Mr. and Mrs. R. J. Walsh), Frank MacGregor, Milton MacGregor and his wife, Floyd Naramore, Bryant Nichols and his wife, Bill Otis and his wife, Hugh Pastoriza, Allen Pope, Bob Rand, Don Robbins, Merton Sage and his wife and daughter Bessie (Mrs. Frank D. Neill), Gilbert Small and his wife, Albert Stevenson and his wife and their son Henry, Allston K. Thorndike, Everett Turkington and his wife, Stanley Wires and his wife, Phil Walker and his wife — a total of 55 people, including 34 '07 men. Most of these men marched in the academic procession. Appointed by the Alumni Association Committee in charge of the Commencement arrangements, I had the honor of serving as marshal of our '07 section of this procession and we occupied seats reserved for us on the stage. Following these exercises the entire group named above were guests of President and Mrs. Killian at the luncheon served in Du Pont Court on the campus. Jim Barker, together with Mrs. Nichols and myself, were head table guests. As set forth in the July issue of the Review, Jim made a very fine address on this occasion. At President Killian's invitation he represented our class. This address has been printed by Allstate Insurance Company in the form of a folder, and a copy is in our class archives.

Aided by perfect weather and the environment and hospitality of Oyster Harbors Club at Osterville, Massachusetts, its manager, Donald Church, and his corps of assistants, our 50 year reunion, held from the afternoon of June 7 until the

afternoon of June 9 with a few men staying until after breakfast on June 10, was a grand success for all of us who were fortunate enough to attend. A total of 46 were present for at least part of the time: Bob Albro, Dick Ashenden, Cecil Baker, Jim Barker, John Bradley, Carl Bragdon, Lester Brock, Kenneth Chipman, Arthur Christensen, Bill Coffin, George Crane, Paul Cumings, Leverett Cutten, Fred Dempwolf, Parker Dodge, John Frank, Louis Freedman, Tom Gould, George Griffin, Hud Hastings, Bebe Hosmer, Ralph Hudson, Ed Lee, Roy Lindsay, Frank MacGregor, Milton MacGregor, Henry Martin, Sam Marx, Howard McChesney, Harry Moody, Floyd Naramore, Bryant Nichols, Bill Otis, Mrs. Maude Darling Parlin, Hugh Pastoriza, Maurice Pease, Allen Pope, Bob Rand, Kelly Richards, Don Robbins, Merton Sage, Gilbert Small, Albert Stevenson, Phil Walker, Stanley Wires, and Molly Scharff '09, a close friend of John Frank and Sam Marx and an attendant at four of our previous reunions.

As you read these names you no doubt paused a moment at that of Maude Parlin. I'll tell you of one of the truly delightful incidents of our reunion. On Saturday afternoon, June 8, I was in my room at Oyster Harbors Club preparing for the evening class meeting when the room telephone rang and I was told that a lady was downstairs in the lobby who was asking for me — a Mrs. Parlin. I said, "Oh, boy, I'll be right down," for I well remembered that Mrs. Parlin, widow of Raymond Parlin '07 was none other than the pretty Maude Frances Darling, the co-ed belle of our Class architects during undergraduate days. I was greeted by a fine looking lady, who, with her six-foot son, David, a graduate of Brown University, had driven over from Fall River, Massachusetts, where she lives and practices architecture, to see some of the "boys" she knew fifty years ago. Needless to say, she received a mighty cordial welcome from all of us. We persuaded her to stay until about six o'clock, so that she was with us when our group photograph was taken.

As always, renewal of old friendships, interchange of experiences, recalling of undergraduate days, and questions and answers regarding classmates who were not present constituted the real core of the cord binding our men together; the strands being woven together on the golf course, during boat trips around Cotuit Bay on Saturday morning and afternoon, around the dining room tables while partaking of delicious food, sitting or walking around on the lovely grounds or porches or rooms of the Club property, while the group photograph was being taken, (See page 24 in this Review) and at the Class meeting that was held on Saturday evening. At this Class meeting Bryant Nichols presided and announced that by ballot he had been elected Class President to succeed Alexander Macomber, who died in 1956, so that he now serves the Class as President and Secretary and as Class Agent for the Alumni Fund.

Greetings from many of the men who were not present were read; and facts concerning some of them were stated by

various men who were attending this meeting. In calling on Phil Walker for his report as Class Treasurer, I paid tribute to his constant helpfulness to me as we together direct the affairs of '07. His report, made correct as of July 1, 1957, shows that as of April 1, 1957, we had \$561.40 in our treasury, as reported in Phil's letter to you dated April 15, 1957. Class dues received between April 15 and July 1, 1957, amounted to \$632.20, so that our receipts as of July 1, *not* including money received for 50 year reunion registrations, was \$1,193.60. Out of this we paid to Leverett Cutten for materials for the mace, \$750.00; and to make up deficit for our reunion operations, as set forth later in these notes, \$220.62, a total outlay of \$970.62, so that as of July 1, 1957, our bank balance was \$222.98. It is evident that if Phil Walker had not done his usual fine job of soliciting Class dues, and if you men of our Class had not responded as generously as you did, we would have been in a bad way financially. Some of the July 1 balance has already been used in paying for the four page reporting letter that I mailed to you on last August 1, and there will be further considerable expense for printing and postage during November and December in connection with sending to all of our classmates various reports that Phil and I feel are both desirable and necessary in order that we may maintain our Class solidarity.

Following the custom of many previous reunions I stated that of the 511 men who have comprised the total membership of our class since 1907, we know the addresses of 243; 227 are known to have died, and regarding the other 41 we have no positive information. The 227 deceased is 44.4% of the entire class membership. 209 men graduated in 1907. Of this number 100, or 47.8%, have died. 19 of our classmates died between the time of our reunion in June, 1955, and June 1957. I read the names of these men. I have 162 names on our class mailing list at present.

Roy Lindsay, as chairman of the golf committee for our reunion, enlivened our proceedings by his report on the scores and degrees of excellence shown by our men who had trod the golf course. He had golf ball prizes that he awarded, for one reason or another, to every competitor, and interspersed his comments with "commercials" on the reasons why Pratt and Lambert (of which company Roy is president) paint should be used on golf balls. Roy did a good job in every way. I told of the progress of our Class 50 Year Gift Fund, to be presented to the Institute, citing various particularly interesting incidents that had occurred during the raising of the fund, giving a breakdown of gifts by amounts, describing the inception and operations of the so-called "'07 Anonymous Fund" which was set up in September of 1956 and which was drawn on to match the gifts of other men, and finally announcing that our generous "Mr. Anonymous" was our classmate, Frank MacGregor. This statement was followed by enthusiastic expressions of gratitude to Frank. The general plan and form of announcement to be used in presenting our gift was agreed upon. We paid tribute to Leverett Cutten for the tremendous amount of thought and effort and time

that he had put into the design and making of the mace which our Class also gave to the Institute last June. On motion of Don Robbins an earnest and sincere vote of appreciation to Cutten was expressed by all standing and applauding.

Jim Barker was asked to make a few remarks and he related in a vivid way an experience in the palace of a Persian monarch. Some of us, to this day, are not sure whether it was true or legendary! It was unanimously and enthusiastically agreed that we shall hold another week-end reunion in 1959, and that it shall be at Oyster Harbors Club. The dates June 12-14, 1959, are all reserved for us. Mark your engagement books now! The possibility of publishing a rather elaborate 50 Year Class historical and biographical book was mentioned, but it was quickly decided that we shall attempt nothing of this nature. I was instructed to prepare a folder giving names, addresses, and occupations of the men whose names are on my mailing list in a style similar to that used in the past. This will be done, with copies mailed to our classmates during November or December. The item of business which was not at all on my agenda for this Class meeting, when I was presented with a gift from you fellows, as set forth in the special letter that I mailed you on last August 1, took place at this time, followed by the showing by Phil Walker of colored motion pictures taken by him at some of our former reunions, and our most interesting and lively meeting adjourned at about 11:30 P.M. The financial statement, regarding our reunion, shows receipts from payments for accommodations made by the men who attended of \$1,852.00. We paid to Oyster Harbors Club \$1,779.62, for badges \$70.80, for boat trips \$100.00, for postage and printing \$122.20, a total of \$2,072.62, so that the reunion operation showed a deficit of \$220.62, which was made up from our Class treasury.

Our 50 Year week-end celebration culminated in the events of Alumni Day, held on the Institute Campus on June 10. 38 of our class group attended the luncheon on that day as follows: Jim Barker, Carl Bragdon, Arthur Christensen, Bill Coffin and his wife, George Crane, Paul Cummings and his wife, Leverett Cutten, Fred Dempwolf and his wife, Louis Freedman, Hud Hastings, Ralph Hudson and his wife, Roy Lindsay and his wife, Frank MacGregor and his wife, Howard McChesney, Harry Moody, Floyd Naramore, Bryant Nichols and his wife, Allen Pope, Bob Rand, Don Robbins, Gilbert Small and his wife, Albert Stevenson and his wife and son, Everett Turkington and his wife, Phil Walker and his wife, and Stanley Wires and his wife. 31 of this number were present at the evening banquet and gift presentation and concert, as described in the July Review. Leverett Cutten, with Bryant Nichols and his wife, were honored with seats at the head table at the luncheon, and it was at that time that Leverett did his perfectly splendid job of presenting the mace to President Killian as our Class Gift to the Institute. In the evening, after the banquet, as the result of ballot voting by our class, I had the honor and privilege of presenting to Dr. Killian our cash gift, which at that mo-

ment was just under \$65,000, but which by June 12 reached the final and official figure of \$65,694.42.

Our class also has a record of giving to the M.I.T. Alumni Fund of which we may well be proud. Our contributions to the 1957 Fund amounted to \$57,944.19, a much larger sum than that given by any other class. The total amount given by '07 since the start of this Fund is \$134,968.31, which is exceeded by only two other classes, 1922 and 1923.

On September 6 and 7, 1957, I attended the second Alumni Officers Conference, held on the M.I.T. Campus, and shared with some 250 other class and alumni club officers, educational counselors, Alumni Fund Class Agents, Regional Chairmen and Vice-Chairmen, Special Gifts Chairmen, and many members of the administrative and teaching staffs of the Institute the gaining of much information about M.I.T. accomplishments, plans, projects, and problems; at the same time enjoying delightful fellowship. Another big surprise came to me, as your class officer, when at the banquet held in Walker Memorial on June 6 evening I was presented with a "Bronze Beaver" award which reads, "In grateful recognition of distinguished service to the M.I.T. Alumni Association and his fellow alumni the 1957 Bronze Beaver is awarded to Bryant Nichols of the Class of 1907 who, as reunion chairman for his class, led it to an outstanding record on the occasion of its 50th reunion." This is signed by Gilbert M. Roddy and Donald P. Severance, President and Secretary, respectively, of the M.I.T. Alumni Association. This award has come to me on account of the cooperation and generosity of many of you '07 men who are reading these notes.

Franklin O. Adams, who for many years has been a practicing architect in Tampa, Fla., closed his office on last March 1, and is doing just a small amount of business from his home at 921 S. Orleans Avenue, Tampa 6. — Charles E. Baker had sincerely hoped to attend our 50-year reunion but found last April that he could not make it. He wrote me that 1956 was a rather difficult year for him. He had two sessions in the hospital and his wife died after a long and trying illness. He lost his eyesight some five years ago, and at that time started a sales business, Charles E. Baker, Incorporated, for containers and raw materials for paint and chemical manufacturers, Post Office Box 13, Station A, Atlanta, Ga., two of his sons being associated in this business with him. In his letter to me he wrote: "Please remember me to the boys and tell them how much I regret my inability to get North for the reunion."

Jim Barker, with home address at 1430 Lake Shore Drive, Chicago 11, Ill., who was with us at all the June celebration events as stated in an earlier part of these notes, is chairman of the Finance Committee and a director in Allstate Insurance Company, formed in 1931 as a Sears, Roebuck subsidiary, and having had a phenomenal growth (see article on page 142 of the September, 1957, issue of *Fortune* magazine); chairman of the Profit Sharing and Pension Fund of Sears, Roebuck and Company Employees and a director in

that company; a director of Chicago, Milwaukee, St. Paul and Pacific Railroad Company and of Universal Oil Products Company; a life member of the Corporation of M.I.T., and a trustee of several colleges, libraries, etc. See *Who's Who in Commerce and Industry*.

Last June I was delighted to receive a letter from John G. Barry, as many years had elapsed since I had had any information regarding him. He wrote in part: "For the past two years I have been connected with the Government Exploration for Uranium on the Colorado Plateau. Have just concluded an extensive leave on a rather long trip to Mexico. Fortunately, this included a visit to Concepcion del Oro, Zacatecas, where I saw a relatively large ore body being blocked. I recommended exploration for it in 1951, and it now looks as if Mazapil Copper would have a considerably extended life. Northwestern New Mexico has very important reserves of U_3O_8 (uranium oxide, or pitchblend). Exploration activities are now being pushed as rapidly and as thoroughly as possible on to private industry, so henceforth we shall be appraisers rather than explorers. I regret extremely that I am unable to attend the reunion." John is deputy director, Exploration Division (Raw Materials), Grand Junction Operations Office, United States Atomic Energy Commission, and his address is 1125 Rood Avenue, Grand Junction, Colo.

Henry D. Brandyce, who was associated with '07 in the course in naval architecture, died on July 3, 1957, at his home in Jamestown, Rhode Island, where he had lived since 1941. He was a retired New York broker. — Albert Donnewald, whose address is 531 W. Wood Street, Shawnee, Okla., had fully expected to attend our reunion. He wrote to me late in May saying that "the conditions existing in these parts preclude any possibility of my getting away from here in the immediate future. Please extend to all my classmates my warmest regards and best wishes."

It was good to receive a letter during June from Clif Draper, as I had not had any word from him since August of 1945. He has lived at 1046 Ardsley Road, Schenectady, New York, since 1913, when he was married, subsequent to attending Georgetown University from September, 1910, to June, 1912. He worked with General Electric Company in Schenectady, first as a patent attorney and then as assistant production manager of one division of the company, which eventually moved to Philadelphia. Since that time he has been in the graphic arts field selling sales promotion material to industrial companies. He has a daughter, Doris, married to William A. Byrd, and they, with their two children, also live in Schenectady.

Charles A. (Chick) Eaton telephoned to me from Atlantic City a few days prior to June 7, the first day of our reunion, to say that while he had been looking forward for two years to this Class event, he couldn't possibly attend because of the severe illness of his wife. It was a relief to me to receive a letter from him on June 21 saying that all was well and that Mrs. Eaton was recovering. Chick wrote: "I guess I shall have to call myself 'semi-retired'. I am still president of Eastern

Engineering Company, which has construction work on hand due for completion this year. I am also much interested in a building construction company having on hand about \$2,000,000 worth of work. I also have the controlling interest in a general construction firm which does a considerable amount of work and will probably do more in the future. While I exercise a general supervision over the conduct of the latter two companies, I do not undertake the execution and management of the contracts taken. In other words, I confine myself to financial and advisory fields. This arrangement permits me to leave for variable periods, provided I can get back for a short time monthly or thereabouts. I suggest that you address me at 345 N. Georgia Avenue, P. O. Box 26, Atlantic City, New Jersey at all times, and during the period, mostly in the winter, when I am away, the mail will be forwarded to me."

Louis Freedman, 33 W. 60th Street, New York 23, N.Y., is the owner and mechanical engineer of Grafibre Elevator Rail-Shoe Gibs Laboratory, and is also engaged on a diesel engine project for aircraft. — Harry Hall of 5600 — 42nd Avenue, Hyattsville, Md., is retired as chief engineer of Washington Suburban Sanitary Commission, and is consultant associated with Fred W. Tuemmler & Associate, community planner and development consultant in Hyattsville. — As you all know, Clarence Howe was defeated in his campaign for re-election to the Canadian Parliament last June and no longer holds public office. He wrote to me last July, as the result of a letter that I wrote to him: "Thanks for yours of 14th last. I am not unhappy about my personal defeat, now that my party is out of office. Twenty-two years continuously in office is a long term, and it is time to end it. My address will be 7 Crescent Road, Rockcliffe Park, Ottawa, Canada, which is both my home and office. I hope to be active in business for some years. There seems to be plenty of work offering to me in that field. Just now I am spending a couple of months at our summer home (Colinsfield, St. Andrews, New Brunswick, Canada), and will decide about my business associations when I return to Ottawa around Labor Day. I am glad to hear that our 50th reunion was a great success. I hope to spend more time on M.I.T. affairs from now on. It is a wonderful feeling that I can do as I please, rather than be driven by official duties."

Awaiting me on my arrival at Oyster Harbors Club on June 7 for our reunion was this telegram: "My best and heartiest wishes for a topflight reunion and a good time worthy of life-long memory," signed by Jim Moore from Daytona Beach, Fla. — A thoroughly disappointed man at not being able to attend our reunion was Fred Moses, who is Chairman of the Board of Firemen's Mutual Insurance Company and Associates of Providence, R.I. Fred had paid for his reservations at Oyster Harbors, but at the very last moment was held up unavoidably in Chicago. He has written me that he'll be on hand for our 75th! You won't have to wait that long, Fred. Come to our 52nd, June 12-14, 1959. — Tucky Noyes was another loyal classmate who had definitely hoped to be

with us at Oyster Harbors, but who was unable to attend on account of his wife's poor health. Tucky has an unusual hobby. He reproduces family coats of arms. 7 Dayton Street, Augusta, Maine, continues to be his home address. — Tom Roby, who retired as valuation engineer of Seaboard Airline Railroad Company on February 1, 1954, at the compulsory age of 70, wrote me last April that just three weeks after his retirement he had a light stroke, and although he made a good recovery, he has been unable to do many things for which he had planned, including attendance at '07 reunions. He wrote that Henry Martin is the only '07 man whom he has seen since our graduation. Tom lives at 834 Westover Avenue, Norfolk, Va. May I suggest that if any of you who read this are ever in that vicinity you call on him.

Herbert A. Sullwold, 1501 Via Montemar, Box 785, Palos Verdes Estates, California, wrote to me last April saying that due to the distance he would be unable to attend our reunion. He said, "I shall miss renewing friendships, especially in Course IV and the fellows in the mandolin and glee clubs." — Phelps Swett is another old-timer at Class reunions who couldn't make it this year, chiefly on account of an eye trouble that he has. He asks me to urge you, if you are ever near Middlebury, Vt., to be sure to call on him. He lives at 49 South Street, and is President of the National Bank of Middlebury. — In the first part of these notes you no doubt notice the name of Allston K. Thorndike listed among those who attended the Commencement Day events last June 7. I had received a letter from him earlier in the spring. It was fine to have him with us for the first time since 1907. He took work in Course XIII. He is in the purchasing division of Jackson and Moreland, Incorporated at 600 Park Square Building, Boston, and lives at 131 Park Drive, Boston 15, Mass.

This welcome and much appreciated telegram came to us while we at Oyster Harbors last June from Willis Waldo at Havana, Cuba: "Greatly regret unable attend reunion best wishes to all my classmates." — J. Damon Whittemore has retired from active business and is living at Great Oak Road, East Orleans, Mass. — You men who remember Dick Woodbridge, who died in 1946, will be interested to know that from time to time, through correspondence with his widow, I have kept in touch with his family. Under date of last August 6, Mr. Woodbridge wrote me of their son, Dick III, who was appointed an assistant vice-president of New York Life Insurance Company two years ago, at age 38. After his graduation from Princeton University in 1939 with a Master of Science degree in chemical engineering, he took a postgraduate year at M.I.T., associated with the Class of 1940. He spent five years with Du Pont, then went back to Princeton and got his Ph.D. degree, teaching at Princeton during that time. He is married, with a son age 13, and a daughter, age 8. He lives in Princeton, commuting each day to New York City. — I also have enjoyed quite frequent correspondence with Mrs. Hermann W. Mahr, who lives in Mayfair Apartments, Wilmington,

Delaware. Hermann, you may recall, passed away in July, 1955. — BRYANT NICHOLS, *President and Secretary*, 23 Leeland Road, Whitinsville, Mass. PHILIP B. WALKER, *Assistant Secretary and Treasurer*, 18 Summit Street, Whitinsville, Mass.

1908

Our 49th Reunion was held June 7 to 9 at Harwich Port on the Cape. Headquarters was at the Melrose Inn, where we were so well taken care of in 1956. Classmates who attended were Bunny Ames, George Belcher, Henry Blackburn, Bill Booth, Jimmie Burch, Nick Carter, Fred Cole, Dick Collins, Leslie Ellis, George Freethy, Karl Kennison, Harry Lord, Howard Luther, Harold Osborne, Henry Sewell, Charlie Steese, Frank Towle, and Joe Wattles. To complete the enjoyment of our party, we were favored with the presence of Mesdames Ames, Belcher, Collins, Ellis, Freethy, Kennison and Wattles. Nine of us had arrived in time for lunch on Friday, June 7, and many more came during the afternoon; so we had a goodly number for pre-dinner cocktails at the Beach House, where most of us had our rooms. Thanks are due to Dick Collins for providing the *pièce de résistance* of all hors d'oeuvres — fresh Little Neck clams, which he had captured that morning. These, with the very special sauce made by Mrs. Collins and the delicious cheese biscuits made by Mrs. Belcher, certainly tuned up our appetites for dinner. Perhaps the various libations provided by our refreshment committee also helped. So our long table in the dining room at Melrose Inn was pretty well filled with happy and hungry people. After a bountiful repast we adjourned to the Beach House Lounge for an evening gab fest, helped by the refreshment committee. However, as befits our age, "lights-out" was before midnight. One advantage of passing 70 is that you don't have to burn the midnight oil with long winded card games and husky outbursts of song extolling Sweet Adeline, in the wee, small hours, to have a good time.

Saturday was a beautiful day, perhaps a little cool, but this did not prevent Bunny Ames from taking a swim. George Belcher and Howard Luther drove to Chatham for a round of golf at Eastward Ho, where Howard is a member. Fred Cole arrived Saturday morning, so had to be introduced to our self-service refreshment facilities, and then was on his own. Most of us just sat in the sun, snapped pictures, gossiped, or shopped in the village. George and Mildred Freethy entertained the class at a cocktail party at their new summer cottage in the Bass River at West Dennis on Saturday afternoon. Henry Blackburn and Harold Osborne had arrived by then, so we had 25 '08'ers to admire the new cottage and enjoy the delicious shrimp and other comestibles, as well as various drinks, available. Following dinner Saturday night we had a good songfest with Dick Collins at the piano. Our renditions of certain selections were really quite touching and called for encores, which were promptly provided.

Sunday was another beautiful day, but a little warmer. Our party started leaving

soon after Sunday lunch, some staying on the Cape and others heading for Boston and way stations. It was agreed by all that our 49th was a great success.

Monday, June 10, was Alumni Day at Cambridge. Once again we were blessed with a perfect June day. At lunch in Du Pont Court the following sat down together: Henry Blackburn, Bill Booth, Jimmie Burch, Nick Carter, Leslie Ellis, Sam and Mrs. Gardner, Carl and Mrs. Hall, Leo Loeb, Harold Osborne, Miles Sampson, Charlie Steese, and Frank Towle. The afternoon was spent sight seeing around the campus, terminating with the cocktail hour on the green, where we met many old friends of other classes. At the banquet in Rockwell Cage, we had at our table: Henry Blackburn, Bill Booth, Nick Carter, Fred Cole, Leslie Ellis, Leo Loeb, Harold Osborne, Charlie Steese, and Frank Towle. Following dinner we adjourned to Kresge Auditorium for a concert by the Boston Pops Orchestra, thus concluding a most enjoyable Alumni Day.

George Belcher, Nick Carter, Leslie Ellis, Harold Osborne, and Henry Sewell attended the Second Alumni Officers' Conference September 6 and 7 at Cambridge. We were quartered in Baker House with meals at Graduate House, Walker Memorial, and the Faculty Club. Bill Given has been nominated by the Alumni Association for Alumni Member on the M.I.T. Corporation Visiting Committee for the Department of Metallurgy. We understand that George Belcher and Dick Collins have been doing some successful bluefish fishing off the Cape this fall. Hope they got some big ones.

The first dinner meeting of the Class for the 1957-58 season will be held at the Faculty Club, 50 Memorial Drive, Cambridge, at 6:00 P.M., November 6. There will also be dinner meetings at the Faculty Club on January 8, March 5, and May 7, 1958. Hope you can plan to be with us at some or all of these meetings. Remember the Alumni Fund. This is our last chance to build up our 50th year gift to M.I.T., so be generous. — H. LESTON CARTER, *Secretary*, 14 Roslyn Road, Waban 68, Mass. LESLIE B. ELLIS, *Treasurer and Assistant Secretary*, 230 Melrose Street, Melrose 76, Mass.

1909

After a three-month intermission we are again beginning another year and look forward to reporting the class activities and news concerning class members. We hope that the good assistance relative to receiving news items will continue.

As stated in the July Review, your Secretary and Muriel left for Europe on May 23 and could not be present on Alumni Day. However, Henry Spencer, II, kindly reported those present at the luncheon and dinner as follows: George Bowers, I; Howard, I, and Mrs. Congdon; Jim, XIV, and Mrs. Critchett; John, II, and Mrs. Davis; Tom, I, and Mrs. Desmond; Brad, X, and Mrs. Dewey; Francis Loud, VI; Joe Parker, I; Gardiner Perry, VI; Art, I, and Mrs. Shaw; Laurence Shaw, V; Henry, II, and Mrs. Spencer; George, II, and Mrs. Wallis.

As reported in the July Review, the

dinner in the Rockwell Cage was followed by a Pops Concert, given by the Boston Symphony Orchestra in the Kresge Auditorium, which was broadcast. This may have been the first time a Pops Concert has been given outside of Symphony Hall.

At the time of the dinner, Van Bush happened to be standing alone near the '09 table and was invited to join our group. He gladly accepted and on a motion by Tom Desmond, was voted an honorary member of the class. The following note was received from him: "I am greatly honored to be a member of the distinguished class of '09. I rather needed an additional class. For, while I am included with '16, I was a graduate student, and like most such genra, knew none of the undergraduates who received diplomas that year. Moreover, the '16 group, while undoubtedly notable, seem a little young to me and I'll feel perhaps more at home with men of my own age — or a little older perhaps. There is no telling where I will be when you celebrate in 1959. Perhaps, with good luck, I'll be driving a boat up the coast of Maine at that time. We will see. But in the meantime, many thanks for your thoughtful and appreciated act of election."

As you all know, George Harrison, Dean of Engineering was also made an honorary member of the class at our 45th reunion. The class feels more than honored to have two such distinguished scientists as class members.

This past September the Second Alumni Officers' Conference was held at the Institute, the first having been held two years ago and reported in these class notes. The purpose of the Conference is to acquaint Alumni, class officers, and class agents with the educational and research progress at the Institute as well as its financial needs. In addition, we were all urged to be on the lookout for prospective students of high caliber who later would develop the leadership needed to carry on the work of the Institute. Much of the conference is described elsewhere in this Review.

Early in August Molly, XI, sent us a clipping from the *Pittsburgh Post Gazette* in which it was stated that Joseph White, XI, county traffic engineer who had become 72 years old, was undecided whether or not to resign his position. He had long passed the retirement age but still felt capable of continuing his duties. Molly states that this illustrates the durability of the members of our class. Later we received a letter from Molly's secretary stating that he again had gone to the Far East on business and was expected back along the middle of September. We hope to report further on this trip as we did his earlier one last year.

Several times we have reported the honors which have come to Steve, X, such as certificates, honorary memberships, and medals for contributions as an author and an editor to the pulp and paper industry. We have received a clipping from the Bangor Daily News stating that Steve had received the honorary degree of Doctor of Science from the University of Maine. The clipping showed

a photograph of President Hauck and other dignitaries, including Steve, in caps and gowns. The citation is as follows: "Native of New York State; graduate of the Massachusetts Institute of Technology, Master of Science, Rose Polytechnic Institute, then graduate student at the University of Maine; one-time instructor and assistant professor of paper technology at this university; influential and progressive leader in the scientific and technical development of the paper industry in Canada and the United States; editor-in-chief of widely used textbooks on the manufacture of pulp and paper, since 1918 editor-in-chief of *Pulp and Paper Magazine of Canada*; In recognition of significant contributions and devoted service to the pulp and paper industries of North America, the Trustees of the University of Maine are pleased to confer upon you the degree of Doctor of Science." So now it's "Doc Stephenson". The class again congratulates him. Steve also sent us the following note: "The monotony of keeping Bachelor's Hall while my wife was tripping around Europe was pleasantly broken by a visit from Leon Healy, V, and his wife. Leon was en route to Montreal for a three-day convention of rubber chemists."

We have received a clipping from the Barre, Vt., *Times* dated last April which stated: "Miss Florence H. Luscomb (IV) of Cambridge, Mass., a noted American liberal will be a guest of the Goddard College Community this weekend and will speak on 'The Autobiography of an American Liberal.'" Then followed a detailed biography of Florence telling of her graduation from the Institute in architecture and of her practicing the profession for a number of years. Listed were the many causes for which she has so ardently worked, such as women's suffrage, labor problems, religious freedom, racial relations, world peace, and industrial health and safety. The several organizations of which she was either a member or an officer were also listed.

In the July Review we told of the passing of Lyman F. Whitney, II. We wrote to Mrs. Whitney expressing the sympathy of the class as well as our own and she replied as follows: "Thank you for your letter about my husband, Lyman F. Whitney. It was kind of you to write as you did, both as his Class Secretary and as a personal friend. I have heard him speak of you often, although I do not believe I ever had the pleasure of meeting you. I appreciate your plan to write a Memorial to him in the Class Notes of the July Technology Review and would like very much to have a copy. In this connection you may be interested to know that, in addition to his work at Comstock and Wescott, Incorporated, where he was Vice-president and director of research, he was honored last February by an appointment as chairman of the Committee on Metallic and Ceramic Personnel Armor Materials. This committee is under the Advisory Board on Quartermaster Research and Development, a part of the National Research Council of the National Academy of Sciences."—CHESTER L. DAWES, Secretary, Pierce Hall, Harvard University,

Cambridge 38, Mass. *Assistant Secretaries*: MAURICE R. SCHARFF, 250 E. 43rd Street, New York 17, N.Y.; GEORGE E. WALLIS, Wenham, Mass.

1910

It is with sorrow that I have to announce the passing of two classmates; James H. O'Brien on February 2, 1957 and Christopher Schellens on June 11, 1957. I have no further information on James O'Brien other than the announcement sent to me by the M.I.T. Alumni Records Office. The following is from the *New York Times*: "Christopher Avery Schellens of Groton, Conn., and the Englewood (N.J.) Club, consulting engineer to the J. S. Coffin, Jr., Company of Englewood and designer of the Coffin marine turbo-pump engines, died Tuesday of a heart ailment in his summer home in Tenants Harbor, Maine. His age was 68. A specialist in steam turbines, Mr. Schellens held bachelor's and master's degrees from Massachusetts Institute of Technology. He had been in charge at the General Electric Company prior to forming the Coffin concern."

It does not seem possible that three months have passed since Alumni Day. There was the usual attendance of members of our class: Jack Babcock, Roy Briggs and wife, Bob Burnett and wife, Ed Kiely and wife, Hal Manson and wife, Murray Melish and wife, Henry Hale and wife, Art Curtis, Russell Hastings, C. William Wallour, and your secretary and his wife. Hal Billings' wife attended the luncheon but Hal was unable to attend as he had to attend an important bid opening.

Just before Alumni Day I received a letter from M. J. Turnbull: "This will be the first time in many years that Mrs. Turnbull and I have missed Alumni Day. We will do so this year because I have been told to report to Hartford Hospital for an abdominal operation and I will not be in shape by June 10 to come to Cambridge." We all missed Mert and his wife as they have regularly attended these meetings for years. I am happy to state that Mert came through the operation successfully.

Jack Babcock, who has been spending the summer on the road between Prouts Neck, Maine, and Cambridge, sent me the following notes: "In August I visited my son Bill (M.I.T. '39) and his family at Raleigh, N.C. He had resigned on July 1 from his position as professional civil engineer at North Carolina State College in order to accept the position of director of highways for the state of North Carolina, a newly established position in connection with the reorganization of the State Highway Department." Jack has very good reason to be proud of his son Bill.

Frank Bell sent Jack a copy of a 2-page spread by Asphalt Institute showing photographs of a paving job recently done by his company (Uvalde Construction Co.). This project involved the construction of asphalt pavement on one of the busiest streets in Dallas. It was carried out so smoothly and efficiently that he received high praise from Dallas officials and store owners of buildings in

that area. Frank has been with Uvalde for a great many years and is now its president. According to the Alumni Register (1955) his son Edwin (M.I.T. '48) is general superintendent of the company.

I had the pleasure of hearing from Bertholf Pettit who is retired and living in San Diego, Calif. He is very active on the Conference Planning Committee for the Conference for Senior Citizens of Balboa Park.—HERBERT S. CLEVERDON, Secretary, 120 Tremont Street, Boston, Mass.

1911

At the Second Alumni Officers Conference at M.I.T. September 6 and 7, President Don Stevens, II, and I attended and were roommates at Baker House, the dormitory at which visiting Alumni were housed. Full details of the fine affair are found elsewhere in this issue, but there was one incident which came as a complete surprise just before conclusion of the Friday evening dinner meeting, and Don wanted to report it in the form of a message to classmates:

"September 7 at M.I.T. Dear Classmates: My heart took an extra jump last night when President Gil Roddy'31 began a special citation to wind up an eventful day. Every word that he said in praise of a wonderful class secretary made me more and more sure that he was going to announce the name of Orville B. Denison'11—all of which he did and then disclosed that in 46 years Dennie had never missed supplying notes for the class section in the Technology Review and as class agent since the Alumni Fund's inception in 1940 had never missed a deadline. So, President Roddy concluded that it was fitting and proper that the 1957 Bronze Beaver be awarded to Orville B. Denison'11 who, as class agent since 1940 and class secretary since 1911, has established a record of service without peer. All '11 men can be very proud of this official mark of honor and recognition for our great Dennie, as were the more than 300 M.I.T. men present. (signed) D.R. Stevens, President, M.I.T. 1911."

We were sorry that Jack Herlihy was unable to attend, but delighted that his son, Jack, was on from Chicago and young Oz Stewart up from Darien, Conn.—both members of M.I.T. 1939.

We had 16 classmates, three wives and one sister in the 1911 delegation attending this year's tiptop Alumni Day at the Institute on Monday, June 10; and, 'as the feller sez, "A foine time was had by all!" Starting with a gay reminiscing party at the lunch in the great court, on through the afternoon visitations and dedications, climaxing with the banquet and a concluding wonderful concert by the Boston Pops Orchestra, the day was a memorable one for all.

This year's distance prize went to our venerable Sam Schmidt, VII, Cincinnati editor and the first graduate in the Course VII school of public health. Mrs. Schmidt accompanied him but due to illness was unable to attend events, so he had his sister, Mrs. L. Brosnick of Boston, with him in her place. It was so

nice to see him and discuss old times, as well as listen to his story of the weekly Jewish newspaper he has been editing and publishing in Cincinnati for several decades.

Corporation member I.W. (Bun) Wilson, XIV, was on as usual from Pittsburgh and Admiral Luis de Florez, II, made his usual personal flight to land on the Charles River Basin in midmorning. Erv Young, I, also came over from New York — East Orange, N.J., to be exact. It was also great to find Bert Fryer, VI, able to get to the luncheon, as he and Ethel were East on an early '57 vacation trip.

Locally there were three couples present: Mr. and Mrs. John F. Alter, IV; Mr. and Mrs. Bill Coburn, XI; and Mr. and Mrs. O. W. Stewart, I. The stags who completed the group included: Denzie Denison, VI; Cal Eldred, VI; Fred Harrington, I; Jack Herlihy, II; Art Leary, XI; Roger Loud, VI; Carl Richmond, I; and Emmons Whitcomb, X.

Coursewise there was a tie for first place between I and VI, each with four present; a third place tie developed between II and XI, each with two, and four singletons. It was so nice to hear that young Jack Herlihy '39 is now director of industrial engineering for Inland Steel Company in Chicago and our hats are off to Emmons Whitcomb, who became president of the Wellesley Rotary Club on July 1. Emmons and Rita headed a list of Wellesley Rotarians who chartered a plane and flew to the recent Rotary International Convention in Switzerland.

Shortly thereafter official announcement was made of the establishment by Frances G. Hill of the "Bancroft Hill Memorial Fund", as a memorial to her late husband, our popular Course I classmate who died at his Baltimore home on January 5. Mrs. Hill established the fund in the amount of \$10,000 and it was at once placed in the permanent funds of the Institute. The official catalogue entry reads: "BANCROFT HILL MEMORIAL FUND (1957). This fund was established by Frances G. Hill in memory of her husband, Bancroft Hill '11. The income from this fund shall be used for scholarship assistance to students in civil engineering who are in need of financial help." In behalf of the entire class I have tried to thank Mrs. Hill adequately for this wonderful act.

During the summer word has been received of the death of four more of our classmates: John R. Hugelman, I, on June 18; Edward R. Hall, II, on June 21; J. B. Nealey, I, on July 9; and Otis Hutchins, XIV, on August 27.

John Hugelman, a native of Cambridge, prepared for Tech at Rindge Technical in that city. He was an active member of the Civil Engineering Society and for many years was a brokerage partner with Goodwin, Beach and Company in Hartford, Connecticut. He became an active Mason, belonging to St. John's Lodge in Hartford. More than a decade ago he became ill and went to the Masonic Hospital in Wallingford for treatment and care. He never regained his health and died there on June 19 after a lingering illness.

He leaves his wife, Elizabeth, of West

Hartford; a son, Allan, of Littleton, Mass.; a daughter, Mrs. Raymond Pratt of East Hartford; a brother and two sisters out of state; and three grandchildren.

Ned Hall, a retired army engineer with the rank of lieutenant colonel, was a native of Wollaston, preparing for Tech at Quincy High School. He was active on the campus, being a member of Tech Show chorus as a freshman and on the class football team our second year. He was a member of Theta Chi fraternity and the Mechanical Engineering Society. He was for many years in manufacturing, principally with the Merrimac Hat Company in Amesbury. At the outbreak of World War II he entered the Army Corps of Engineers and remained in the reserve and was also active in Civil Defense in Newburyport. He too was a Mason. He leaves his wife, the former Persis Thompson; a son, David J., of Philadelphia; and two daughters, Mrs. Ann Mills and Mrs. Jean vanZandt of Houston, Texas.

A transfer from Columbia University, James Barton Nealey, I, was with us at M.I.T. for a part of his early education. Following a long illness fighting the ravages of rheumatoid arthritis he and his wife moved from Jackson Heights, Long Island, to Wilton, Conn., and finally to Columbus, S.C.; but it was a losing battle, and Bart died there July 9.

A native of Bangor, Maine, he was a descendant of the famous Clara Barton, who organized the American Red Cross. While with us he was on the business staff of *The Tech* for a time. He served as an Army officer in World War I and later went to Russia, being there during the revolution. He was mines and metal editor for the *New York Commercial* for a number of years and was later publicity editor for the *New York Public Utilities*; in this latter capacity he traveled extensively over the United States. During World War II he was senior editor at the Pentagon.

Bart was a member of the National Press Club, Advertising Club of New York, Mines and Metals Club, a member of the Scottish Rite and Kismet Temple of the Shrine in New York. He also was active, until his latter years of illness, in the New York M.I.T. Club. Survivors include his widow, the former Bertha West; a sister-in-law, Mrs. E.T. Nealey of Old Town, Maine; a nephew, and two cousins.

A typical Yankee, born in Keene, New Hampshire, Otis Hutchins, XIV, prepared for Tech at Phillips Exeter Academy. A big, husky fellow, he was on the class football team for our two Field days. He was also a member of the Exeter Club, Chemical Engineering Society, Electrical Engineering Society, and Phi Sigma Kappa fraternity. He went to Niagara Falls, N.Y., in January, 1912, and joined forces with the Carborundum Company, where he was in charge of furnace operations. He was instrumental in designing the company's electric furnaces at Niagara Falls, Ontario, and at Shawinigan Falls, Quebec.

In 1944 Hutchins was appointed director of research and development for the company, retiring because of ill health in 1947. He was responsible for

many outstanding advances in electrochemical and electro-metallurgical fields during his 35 years of service with Carborundum. He is survived by his wife, Grace M. Hutchins; two daughters, Mrs. Donald W. White of Lewiston, Maine, and Jane M. Hutchins of Boston; and two grandchildren. "He had been ill since November," Norm Duffett, X, wrote, "a broken hip adding to his trouble."

To all four widows sincere expressions of sympathy have been expressed and the memories of each of these classmates will surely linger. Completing his letter, Norm Duffett said: "Am still enjoying retirement — half of the time here at 909 James Avenue, Niagara Falls, N.Y. and half at Lake Worth, Fla. Had a family reunion in July — my four children, three in-laws and 14 grandchildren. Some crowd! Sorry to miss 45th reunion — was in Hawaii. Certainly can't let anything interfere with the next one."

Pursuant to his receiving the American Institute of Architects' centennial medal of honor in mid-May (as announced in the April class notes), the *New York Times* on May 16th ran a fine picture of our distinguished classmate, Ralph Thomas Walker, IV, and a story captioned "Architect of the Century." "Chosen for his unstinting use of his talents and energies in many fields of public service," the story reads, "Mr. Walker qualifies as something of an iconoclast himself. Although he could not be called a traditionalist in his architectural viewpoint, he is not particularly enamored of the current trend toward using large expanses of glass to form the exteriors of office buildings, factories, apartments and private homes.

"I don't see what's wrong with the so-called wall punched with holes," Walker says. "Why must we glorify the endless ribbon of plate glass? In a world of humid glare, ordinary windows make more sense than the continued stretch of Venetian blinds, which, jail-like, preclude vision." His championing of masonry construction in preference to steel and glass has not been without its rewards. He holds an honorary membership in the Bricklayers, Masons and Plasterers International Union. And although he's had some hand in shaping New York's skyline, he isn't happy with it. What, he asks, is beautiful about a skyline 'that looks like a broken comb'? He believes buildings can be monumental without being enormous in scale."

In conclusion, the story adds: "With his wife, Stella, whom he married in 1913, he has lived in Chappaqua, New York, for the last 34 years. The Walkers live in a house that the architect converted from a two-story barn. He took off the top story and placed it alongside what was left." We're all sure proud of you, Ralph!

An orchid also to Dr. Carl S. Ell, XI, president of Northeastern University, Boston, who in late May was honored by DePauw University in Greencastle, Indiana (where he received his A.B. degree before coming to us at M.I.T.) with its annual "Old Gold Goblet" award. The goblet is presented annually by the senior class to an alumnus who has "achieved

honor in his life's work and has displayed continuing loyalty." A well deserved honor, Carl — congratulations!

In the *Baltimore Sun* of June 12 appeared this item in the news of the commencement exercises at Johns Hopkins University: "William H. Martin (VI), director of research and development for the United States Army, and a former vice-president of the Bell Telephone Laboratories, was awarded an honorary Doctor of Science degree." Bill attended Johns Hopkins for a time before joining us and in acknowledging a congratulatory note, said: "It is of some interest that this was the only one of five in which the recipient was not in educational work, and the only one in the engineering field." Dee-lighted, Bill and we're proud of you!

This year's Connecticut recipient of the American Newcomen award was "The Old Stone Mill on the Oxoboxo" — Robertson Paper Box Company, Montville, Connecticut. In his address of acceptance, President Ralph A. Powers paid the following fine tribute to Phil Caldwell, I: "Philip L. Caldwell, who is our Vice-president in New York, joined Robertson in 1924. He had been general manager for a shoe manufacturer and changed their method of selling from that of producing 'jobber' brands to their own brand, sold direct to retail outlets. Phil came to Robertson because he thought packaging had an immense potential and he has won for us countless new friends." At the Newcomen lunch in Noank, where the award was made, Phil ran into Harry Tisdale, V, who reported that his wife, Grace, is successfully recuperating from an operation and they plan to sell their Waterford, Conn., home and move to Florida. Phil says his home in Wilton, destroyed by fire earlier, is slowly being rebuilt. "May have the swimming pool finished before the house is done," he concludes.

Had a fine letter from Frank Smith, III, retired and living in Bethlehem, Conn., saying that he and his wife were starting in mid-June for Honolulu, driving cross-country and stopping at Seattle, Washington to visit their older daughter. Later they will drive to San Francisco and embark for Honolulu, where their younger daughter lives. "I expect to buy a small place in the Honolulu suburbs, as my son-in-law has, and then plan to live there. If I can't, I'll be back to Washington or Oregon — not far from Seattle, anyhow. This sort of wandering leisurely trip through the West we have looked forward to for a long time — but I never expected to get to Honolulu. We have one grandchild, 13, in Seattle and two, seven and five, in Honolulu."

While in Cornish, Maine, at our summer place, the latter half of August, I ran across an interesting International News Service feature story in the *Portland Sunday Telegram*, with a picture of the author — General George Kenney, II — revealing interestingly the secret role Charles Augustus Lindbergh played in the South Pacific air war back in early 1944. In George's interesting newspaper style the story told of some of the active flights "Slim" made in an effort to improve the flying techniques of the Army

corps and in conclusion George stated: "Now that the war is beginning to be forgotten, in the light of our present troubles, I see no reason for denying that as far as I am concerned, Lindbergh was one of the unsung heroes of World War II, whose devotion to his country has too long gone unrecognized. I hope this story will serve at least partially to give him that recognition."

In late June in Rutland, Mass., nine buildings were dedicated at the Daniels School of Forestry, which was founded seven years ago by a grant of land by Fred Daniels, VI. Fred has also been very active, along with other leading Worcester industrialists, in raising funds to get this fine school "on the road"; in a dedicatory address, Harry G. Stoddard, chairman of the board of Wyman-Gordon Company, said "the possibilities ahead for developing our natural resources in New England prove that this Daniels School offers a new inspiration to our youth."

Last June marked a Golden Anniversary (high school graduation) for many of us. Roy MacPherson, II, and your secretary attended a 50-year reunion of Framingham High School at the local country club, with Dave Allen, II, unable to get up from Lusby, Md. President Don Stevens, II, got back for his Brookline High School celebration and Jim Campbell, I, ditto at Woodberry Forest School in Richmond, Va. Jim wrote that he and his wife, Toni, made quite a trip of it, including the Blue Ridge mountains and a day and night in Esmont, Va., his boyhood home.

In a letter from Lloyd Cooley, X, he mentioned some interesting items he is handling in the Chicago area. "One item," he writes, "a corrugated metal expansion joint, is made in eastern Massachusetts, while another, a de-aerating feed-water heater and water softener is made in California. The others are made nearer. Treva joins me in best regards."

Royal Barton, VI, has returned from Miami, where he had been living and is now at 45 Mohawk Avenue, White Meadow Lake, Rockaway, N.J. Stu Copeland, II, following his retirement last spring, has now moved from Cloquet, Minnesota, to Post Office Box 298, Ellsworth, Maine. Hall Sargent, II, has left Wormsleysburg, Penna., and taken up residence at Post Office Box 3, Crescent City, Fla. Three other changes of same city addresses include: Clarence W. Dow, I, 587 Pinegrove Avenue, Rochester, N.Y.; A. Washington Pezet, XIII, 178 Stanton Street, New York 2, N.Y.; and Arthur H. Rooney, VI, 125 West Princeton Avenue, Youngstown 7, Ohio.

The O.B. Denisons are proud owners of a complete set of alumni steins that for years were the souvenirs at the Annual Banquets — that is, until our 1947 stein got broken. So, brother, if you can spare a 1947 stein, Sara would love to have it sent to us. This would seem to wrap it up for these first fall notes of the 1957-58 volume, and remember it takes ammunition from classmates to fashion class news, so please "Write to Dennie"; and if you are in the Boston area on the evening of November 7, a Thursday, report at the M.I.T. Faculty

Club, 50 Memorial Drive, Cambridge, for our annual "Seven Come '11" class dinner. — ORVILLE B. DENISON, *Secretary*, Chamber of Commerce, 109 Concord Street, Framingham, Massachusetts; JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford 55, Massachusetts.

1912

The 45th Reunion at Snow Inn, Harwichport, followed by Alumni Day at the Institute, was a rare treat for all 1912 members who could attend.

The following were at Snow Inn, where everyone relaxed and caught up on past history: Mr. and Mrs. R. F. Symonds, Mr. and Mrs. C. L. Tuller, Mr. and Mrs. B. Torrey, Jr., Mr. and Mrs. J. A. Noyes, P. T. Redfern, Albion R. Davis, Mr. and Mrs. L. T. Cummings, Mr. and Mrs. David Follett, Jr., Harold D. Mitchell, Mr. and Mrs. John Raymond, Jr., Charles E. Dodge, Mr. and Mrs. Ray E. Wilson, Mr. and Mrs. L. S. Walsh, Mr. and Mrs. F. J. Shepard, Jr., Dr. and Mrs. W. J. Murray, Mr. and Mrs. James A. Cook, Mr. and Mrs. J. H. Pratt, Mr. and Mrs. Frederick W. Barker, Dr. and Mrs. Jerome Hunsaker, Mr. and Mrs. Charles A. Cary, Mr. and Mrs. Norwood Hall, Mr. and Mrs. Hamilton Merrill, Robert J. Wiseman, A. G. Gale, F. H. Dierks, Mr. and Mrs. H. W. Coddington, Harold H. Brackett, Mrs. Edith B. Forbes, Miss Eleanor B. Forbes, Mr. and Mrs. Lester M. White, Mr. and Mrs. C. F. Springall, Mr. and Mrs. C. Bolmer Vaughan, Mr. and Mrs. Harold G. Manning, C. C. Jones, Mr. and Mrs. John D. Shore, Eric Kebbon, Mr. and Mrs. Charles Rowley and Mr. and Mrs. A. M. Eicher.

Plans are under way for an interim reunion in 1959 or 1960. If you have any preference, drop me a line so that we will know how to plan.

Harris E. Dexter, VI, after retiring on March 1, 1957, left almost immediately for Syria, Greece, Turkey, Pakistan, India, Burma, Indonesia, Thailand, Hong Kong, Japan, and Hawaii. We hope to have a complete report on this in an early issue. Bill Lynch wrote from California last May after returning from Mexico, saying that he would be unable to be at the reunion. Henry Babcock, also of Los Angeles, intended to come East but had a health upset which will keep him at home for several months.

George Rhodes, also of Los Angeles, as well as Page Golsan and Herbert H. Calvin, were not able to get East. Golsan had been in England during the spring and Calvin is still purchasing agent for the William Simpson Construction Company. Hamilton Merrill recently retired as president of Manning, Maxwell, and Moore. He makes his winter home at Bridgeport, Conn., and summers at Orleans where he was married 36 years ago. Ham boasts eight grandchildren. His hobbies are photography, golf, bridge, sailing and travel. He remains a director of Manning, Maxwell and Moore, vice-president and director of a Bridgeport bank, treasurer of the University of Bridgeport, vice-president and director of the United Churches of Bridgeport, and is active in the Junior Achievement Movement.

Fred Busby — living in Watertown — is

semi-retired but holding down two important jobs as Research Fiscal Officer at M.I.T. and assistant treasurer of the M.I.T. Employees' Credit Association. For the first nine years after graduation he designed concrete structures at Stone and Webster. He later taught accounting for 25 years at a Boston business college. His hobbies are home, gardening, and grandchildren. With 13 grandchildren he seems to be the high man.

Lester White, who has for many years acted as assistant secretary, is in poor health and although he came North for the reunion does not feel that he can continue as assistant secretary. I greatly appreciate what he has done to help me and I know the rest of the Class will be sorry to hear of this decision.

After some persuasion, C. Bolmer Vaughan, who has recently retired and is now busy as a philatelist, a bird watcher and a great traveller in foreign lands, has agreed to serve as assistant secretary. After graduation he was associated with our classmate David Dasso in Lima, Peru for several years. Later he represented General Motors for six years in South America. For many years before his retirement he was with Sulzer Brothers, Limited, diesel engine builders in Switzerland with headquarters in New York. If you are in New York give Bol a ring or write him at any time, as he will pass your information on to me. His address is 455 W. 34th Street, New York City. — FREDERICK J. SHEPARD, Jr., *Secretary*, 31 Chestnut Street, Boston 8, Mass., C. BOLMER VAUGHAN, *Assistant Secretary*, 455 W. 34th Street, New York City.

1913

Well! this is not a Chinese holiday or any other New Year except this issue of November, 1957, is the first of the *Technology Review*, Volume 60. Nevertheless, we say editorially "Happy New Year." Your Scribe again is faced with the arduous but very pleasant duty of co-ordinating, and in some cases creating, news every month for the consumption by his classmates who seem to think "It is better to receive than to give," but you must realize that we can not give if we do not receive. So you tycoons, retirees, and receivers of local, state, national, or international awards and grants of 1913 keep the News Mill up to production. September 6 and 7 again found your class representatives, R. Charles Thompson, William R. Mattson, and your correspondent and watch-dog of the 1913 treasury as guests of your Alma Mater at a two day conference with the other officers of other active classes which constituted the Second Alumni Officers' Conference.

It was awe-inspiring to see and hear what dynamic progress M.I.T. has made in modern engineering and science over the past two years and what is planned for the near future. You loyal and generous contributors can be very proud of the results accomplished under the guidance and administration of the Alumni Association and the M.I.T. Corporation of our Alumni Fund. An outstanding example of exceptional planning and administration is the Karl Compton Laboratories. In the main body of this issue the various

phases, scientific as well as social, of the Second Alumni Officers' Conference will be reported much more comprehensively and descriptively than I am able to do. Our distinguished classmate Charlie Edison has again established himself as outstanding in our industrial world as noted from a clipping of the *N.Y. Times*, and we quote in part: "Thomas A. Edison, Incorporated of West Orange and the McGraw Electric Company of Chicago merged today into one of the largest concerns in the electrical industry, with annual sales of \$250,000,000 . . . Charles Edison, son of the inventor and former Governor of New Jersey became chairman of the merger company. Max McGraw will continue as president and chief executive officer . . . Mr. McGraw said the merger consummated a proposal he first made to Thomas Edison in 1928 when both were making electric toasters. Mr. Edison, however, was busy with synthetic rubber experiments and discussions broke off. They were revived recently by Charles Edison and Mr. McGraw." May we offer and add the congratulations of the Class to you and we wish that we shall be able to do it face to face, Charlie, in the near future. Another of our learned class-mates has joined our ever increasing retired group, C. Lalor Burdick, of 4400 Lancaster Pike, Wilmington, Del., after 29 years of continued service with the E. I. du Pont de Nemours and Company at the end of April, 1957. Dr. Burdick was born April 14, 1892 in Denver, Colo. He graduated from Drake University in 1911 and also M.I.T. in 1913, receiving a degree of Bachelor of Science in Chemistry from both institutions. In 1914 he received a Master's degree at M.I.T.; he studied at Kaiser Wilhelm Institute and also University of Basle, Switzerland, and from the latter received the degree of doctor of philosophy. In 1915 and 1916 he was engaged in special research at the University of Basle, Switzerland, and from the London; during 1916 and 1917 he was a research associate in theoretical chemistry, first at M.I.T. and then at the California Institute of Technology. During World War I he served as first lieutenant in the Nitrate Division of the U. S. Army Ordnance Department in Washington, D.C., Boston, and Muscle Shoals, Alabama. Between 1919 and 1924, he was metallurgical and research engineer for Guggenheim Brothers and then with the Chile Copper Company. Then from 1924 to 1928 he was vice-president and consulting engineer of the Anglo-Chilean Consolidated Nitrate Corporation. Starting in 1938 with Du Pont, our scientific friend occupied many important positions including: assistant chemical director of the Ammonia Department; In 1938, a special assignment in the Development Department in connection with the foreign licensing of Du Pont nylon patents; From 1939 to 1945, assistant to the president of the Du Pont Company; In April 1945, chairman of the board of two Du Pont Latin American affiliates, Cia. Mexicana de Explosivos and Du Pont, S. A.; In 1946, secretary of Du Pont's Polyfibers Committee, in which capacity he was the co-ordinating officer and helped direct the development of policy for all Du Pont activities in the field of man-made fibers,

such as nylon, orlon, acrylic fiber, and dacron polyester fiber; and a member of the company's committee on fellowships and grants. Dr. Burdick is the author of numerous articles for technical and scientific journals, and was granted a number of patents in the chemical field. He directed the Lalor Foundation since its establishment in 1935 and was identified with the promotion of research and education in the biological sciences, including the Lalor fellowship plan which enables members of science faculties to pursue further studies in chemical and physical aspects of biology as well as summer fellowships at the Marine Biological Laboratory, Woods Hole, Mass. Dr. Burdick has been on the advisory Board of the Equitable Security Trust Company and also was one of the original trustees of the Haskell Research Foundation and, later, University of Delaware Research Foundation. Our illustrious classmate has been honored as a member and trustee of many biological, chemical, and scientific institutions and associations including the Marine Biological Laboratory at Woods Hole, Delaware Academy of Medicine, New York Academy of Science, Overseers Committee to Visit the Department of Biology and Bussey Institution of Harvard College, American Chemical Society, American Institute of Chemical Engineers, and the American Association for the Advancement of Science. In June, 1955, the University of Delaware conferred the honorary degree of Doctor of Science; Drake University in 1923 elected him to honorary membership in Phi Beta Kappa. Good work, Doc, 1913 is very proud of you. Enjoy your retirement.

Once again, we are bearers of bad news. Our dear classmate, William A. Bottomley of Fairview Avenue, Marlborough, Conn. passed away August 23, 1957 after a long illness. He was a state insurance examiner and a former member of the Hartford Board of Education. Friend Bottomley was born in Chepachet, R. I. 66 years ago, son of the late Edward and Clara Phillips Bottomley. He lived many years in Hartford before moving to Marlborough seven years ago. Funeral services were held August 26, 1957 at the Marlborough Congregational Church with Rev. Fred Momenly officiating, and the burial took place in the Old Church Cemetery, South Glastonbury, Conn. Our departed brother is survived by his dear wife, Mrs. Margaret Kinney Bottomley; two sons, William A. Bottomley, Jr., of Glastonbury and C. Edward Bottomley of East Hampton; a daughter, Mrs. Cecil Gerrish of Plainville, Conn.; two brothers, Jesse Bottomley of Andover, Mass., and Lester Bottomley of Boston, Mass.; also nine grandchildren. Bill was educated at Trinity College and M.I.T. He lived a very active life in the insurance field, political, and civic circles. William was formerly manager of the Springfield and Waterbury branch offices of the Travelers Insurance Company and for many years operated his own general insurance business in Hartford. He was a past president of the Eighth Ward Republican Club of Hartford, and was appointed by the Common Council in 1944 to serve the unexpired term on the Hartford Board of Education of the late Joseph P. Kennedy. He was elected to the Board in 1945

when his appointed term ran out, and served until 1946.

Bill was a past vice-president of the Connecticut State Employees Association; an active Hartford Red Cross organizer; chairman of the building committee for the first unit of the Elmer Thienes Elementary School; a member of the planning board for the Marlborough-Hebron-Andover Regional School; one of the organizers of the Marlborough Zoning Board of Appeals; former chief of the Marlborough Civil Defense organization; treasurer of the Terramugus Beach Association; a charter member of the Marlborough Lions Club; and a member of Marlborough Grange. What a record! Bill's demise leaves a void which will never be filled in hearts of his classmates and the people, as well as his host of friends. To his family, especially Mrs. Bottomley, the Class of 1913 extends its heart-felt sympathy and the writer personally hopes that he may present his condolences in person at some time in the near future.

Now, for the announcement which all of you loyal 1913 men have been waiting so long to hear. Night before last, your officers R. Charles Thompson, President; William R. Mattson, Vice-president; and your Scribe and Tax Collector, George Philip Capen, met with their lady advisors for dinner in Newton, then returned to the ever hospitable home of Bill Mattson, where a preliminary meeting was held for your 45th Class Reunion. First of all, the Reunion will be held at the Oyster Harbors Club in Osterville on the Cape June 13, 14, and 15, followed by Alumni Day, June 16, 1958, at the Institute. Tentative plans were made and necessary committees were selected, all of which will be forwarded to you as well as notice of the general meeting some time after the first of the year, 1958, which we hope all of you in the Boston area will attend. Yes, yes, before we forget it as usual the dues for the reunion year will be \$5.00. Bob Weeks and Bill Mattson have already paid their dues. How about you? We would be amiss if we did not give you a brief description of the activities of the last Alumni Day (Of course, the official program and reports have already been published in the July issue of the Review, very ably by Editor Beverly Dudley). 1913-wise, Ed Cameron, Burt Cushing, Newt Eichorn, Mr. and Mrs. Jerry Fallon, Warren Glancy, Mr. and Mrs. Walt Muther, Arthur Townsend, Mr. and Mrs. Bob Weeks and sister Dorothy attended the luncheon in Du Pont Court. We were joined in the late afternoon for the Social Hour at Briggs Field, the Alumni Banquet at Rockwell Cage, and the Boston Pops at Kresge Auditorium, by Mrs. Glancy, Heinie Glidden, Bill Mattson; Phil Terry, Mr. and Mrs. Gene Macdonald. Also worth mentioning are Mrs. Roz Capen and, Oh yes, the Bride and Groom, Ann and Charlie Thompson. Further, your Scribe reported in person. Lest we forget, an open and shortly closed Class Meeting of those present at the Banquet was held, so that Charles Thompson and Bill Mattson will serve as President and Vice-president respectively until our 45th Reunion. Then all holds are allowed and you

other wayfarers may call for a New Deal. We hope that our column has shown you that your Secretary is still alive even though he has lately returned from the hospital, where he enjoyed two minor abdominal operations which together may be considered major (or should we say polyesters, that is "hernicide" and "hemocide") all of which has kept him static (very domant); but he is speedily regaining his usual automation, to say nothing of his atomic energy. So you energetic engineers, scientists, ordinary wage-earners, and retirees look for our next issue which will feature the lives, the honors, the citations, and the everyday activities or happenings of Lester Gustin; Dave Nason; Charlie Trull; Allen Brewer; George Richter; Arthur Townsend; Allison Butts; Mark Reed; Doc Whitehead; and also our genial Bill Mattson. There will also be many facts or rumors of you silent members. So keep these events in mind: time for Class dues; general Class Reunion Meeting; 45th Reunion, June 13, 14, 15, and Alumni Day, June 16; last but not least, "Today, I shall write the Class Secretary Day." — GEORGE PHILIP CAPEN, *Secretary and Treasurer*, 60 Everett Street, Canton, Mass.

1914

As usual, according to custom, June 10 was a cloudless, cool, and magnificent day for Alumni Day. The program was a most interesting one, and, again, holding all events on the campus proved very convenient. For the second year '14 did not hold its own preprandial meeting but instead joined in the agreeable cocktail party. Charlie Fiske and Dean Fales had both reserved tickets for the day, but, unfortunately, at the last minute both were unable to come down from Maine. Those who attended were Herman and Mrs. Affel from New Jersey; Ernest and Mrs. Crocker; Leigh and Mrs. Hall from Concord, N.H.; Leicester and Mrs. Hamilton; Phil Morrill; Boggs Morrison; Art Peaslee; Al and Mrs. Sherman; A. V. Swift; Harold Wilkins; Gardner Derry; Dana Mayo from New Hampshire; Don Des Granges; and your Secretary.

The Sunday after Easter Charlie and Mrs. Fiske had the pleasure of attending the baptism of two of their granddaughters. The Fiskes now have four granddaughters and one grandson, with ages ranging from six months to 14 years. Charlie came down from Maine on the week end after Labor Day to attend the M.I.T. Alumni Officers' Conference. Your Secretary regrets he also could not have been present, but he had not yet returned from Europe.

A bit late, word has indirectly been received that Bill and Mrs. McPherrin of Kansas City, Mo., sailed last fall to spend a year and a half traveling by car around the European continent and the Middle East countries.

J. Warren Horton, who is the chief research consultant for the Underwater Sound Laboratory of the United States Navy at New London, Conn., has just written a book for the Navy entitled *Fundamentals of Sonar*. Horton is considered one of this country's outstanding authorities on underwater sound.

Elden I. Staples died on May 5. He had formerly been employed by the Westinghouse Electric Company but more recently had retired to Dunstable, Mass. Staples prepared for the Institute at Wakefield, Mass., High School and, during World War I, was an ensign serving on the battleship *New Hampshire*. He is survived by his wife and three children.

Although only at the Institute for his freshman year, De Vere Dierks took an active part during that time in class affairs. He died in his home city of Kansas City on May 21. No details of his family are on our class records. He was, however, vice-president of the Dierks Lumber and Coal Company.

Skip Dawson is the latest of our classmates to report for the retirement list or, as he states himself, as applicant for the Chair Warmers' Union. Skip will, however, retain three active directorships and some special committee activities. For many years he has been treasurer of the E. D. Jones and Sons Company of Pittsfield, Mass., manufacturers of paper machinery. He will continue to live at Pittsfield and extends a most cordial invitation to any '14 man passing through his city.

Hibbard S. Busby, consultant engineer for United Engineers, Incorporated, of Springfield, Mass., was one of the participants at a conference at Springfield College in July on the subject, "Education 1967 — A Look Ahead." Busby has specialized during his life as a research colorist especially in the field of textiles.

Homer N. Calver has been appointed visiting professor of the American University of Beirut, Lebanon. He is on leave of absence as secretary of the Public Health Committee of the Paper and Container Institute. Calver has previously taught at the University of Beane and New York University Medical College. The University, founded and largely supported by Americans, is one of the leading institutions in the Near East. Your Secretary had the pleasure of visiting it this summer — as he has previously done on several occasions — but missed Calver. The setting of this University on the eastern shore of the Mediterranean is truly a beautiful one. — C. P. FISKE, *President*, Cold Spring Farm, Star Route 3, Bath, Maine. H. B. RICHMOND, *Secretary*, 100 Memorial Drive, Cambridge 42, Mass. H. A. AFFEL, *Assistant Secretary*, 120 Woodland Avenue, Summit, N.J.

1915

Welcome to another year's column of Class Notes, with the hope that you and your families all enjoyed a pleasant, healthy, and happy summer. At Alumni Day on June 10, the following group of classmates and their wives attended: Ash, William E.; Bailey, Lawrence H.; Brown, Earle W. and Mrs.; Coldwell, Everett S. and Mrs.; Dalton, Marshall B.; Keller, Parry; Landers, Bernard and Mrs.; Leeb, Henry L.; Mack, Azel W. and Mrs. and guest; Morrison, Archibald S.; Pike, Waldo F. and Mrs.; Swift, Herbert D.; Waters, Frederic E. and Mrs.; Wood, Carl W. and Mrs. and guest; Woythaler, Max I. and Mrs. Later in the afternoon they all came over to the Class cocktail bar party at the nearby M.I.T. Faculty Club. Long time

no see classmates were Earle and Mrs. Brown from San Francisco, and Francis and Mrs. Buckley from Boston. It was good to see them there, and I am sure they will always be with us in the future. The farewell concert in Kresge Auditorium by the Boston Pops Orchestra under the leadership of Arthur Fiedler was outstanding, and we all agreed one of the finest things the Alumni Association has done for its members.

Max and Clide have kept us right up at the top in the Alumni Fund and in the Special Gifts division. Many thanks to these two fellows for the fine work they have done. Many thanks to you classmates who have helped them. In the Alumni Fund for the 10 classes from 1910 to 1919 inclusive, we rank second with \$84,293 for total contributions to the fund. An excellent record. We surely didn't go wrong in picking Ben Neal for chairman of the Capital Gift Fund; in the short time he has been operating, he has done an outstanding job. Already he has a sizable total collected or pledged, with contributions coming in steadily. Ben has asked me to urge you fellows to peruse his letter again and send in your pledge cards and checks, so that he can begin to formulate a program for the future with Joe Snyder, Treasurer, of M.I.T. Ben has received a number of interesting and friendly letters, excerpts from which will make good reading in next month's Class Notes. We shall have a Boston Class Dinner in the fall, but it will be sad without the presence of our good friends, Henry Sheils and Fannie Freeman. Then later, probably in January, Hank Marion and Larry Landers will put on their annual New York City Class Dinner. This has grown in popularity and attendance, and I hope you will all come out to make it equally as successful this year.

It is sad to report the loss of some outstanding classmates. Fannie Freeman died May 12, 1957, after a long coronary illness. John T. Walsh died April 28, 1957. He lived at 24 Morris Avenue, Buffalo, New York. Ernest Hayward passed away in Gloucester, Massachusetts on June 15. He was President of the E. J. Rappoli Construction Company of Boston. Kenneth T. King died August 8, at Alden, Michigan. Ken had been manager of the Fine Chemicals Division of E. I. Du Pont de Nemours and Company, Incorporated and had retired in 1949. Since retirement he and Edith had been traveling extensively, and always had an unusual and cute Christmas card describing their trips. These losses are hard blows to the class, and we have sent messages of sympathy to the families of all of these men. In addition to the many classmates and their families who attended Henry Sheils' services, many more wrote to May Sheils, which touched her deeply, and she would like you all to know how she feels, with this note: "Mrs. Henry C. Shiels and the family wish to thank the members of Henry's class for their thoughtful and kind expressions of sympathy, at his recent death." Fannie Freeman lived as a bachelor at 100 Memorial Drive where we do, so we saw him often and had him for dinner, particularly at holiday time. So we will miss him greatly around the place. Perhaps in this age bracket we should begin to ex-

pect some of these troubles, but they are still hard to accept. Weare Howlett has been hospitalized for a time. Max Woythaler had some sudden surgery for an acute condition, and was laid up for a while. Frank Scully was out of circulation for several months, and even Clide Lacy and I were laid up for a spell this summer. Neither of us could attend the Alumni Officers' Conference held at the Institute on September 5, 6 and 7, and Max was out also. But Jack Dalton, Ralph Curtis, Gardiner Wilson, and Herb Anderson represented our class, and all of them were in touch with me while I was laid up. It was good to hear from them.

The other side of the picture is the pleasant progress the progeny of the class makes. On April 27 at All Souls Unitarian Church in Schenectady, N.Y., Phil and Mrs. Alger's daughter Anne Vogdes was married to Mr. Gert Ehrlich. On December 2, 1956, our deceased classmate Kebe Toabe's son, Sydney Lee Toabe, was married to Betty Kathryn Steele, in Colwell, Iowa. Congratulations from the class to these two young couples, with every wish for a long, happy, successful married life.

Earle and Mrs. Brown had such a good time at their first Alumni day, and visit with classmates, that they wrote later from Portland, Maine. Earle wrote this nice letter which we are glad to have. We sent him Phil Alger's address, and Don Hooper's in Portland, and we hope he saw them both. "We had a grand time at the M.I.T. reunion and it was wonderful to meet so many of the fellows after some 40 years. We are now resting at Maine and visiting with our son David. There is a 1915 man here in Portland and I cannot remember his name. Would you please look him up in the Register of Former Students and send me his name and address. Also please send me Phil Alger's address. Best regards to you and Fran. Yours in the cause of 'Help Azel.'" My business associate, Sidney Edelstein '32, Course V, was back in June for his 25th class reunion, which was held at the Baker House. This apparently is the Alumni Association's plan to get the 25th class back on campus. The headquarters was at Baker House, and I must say this young class did an excellent job. They must have taken a page from the 1915 reunion book, for they had a continuous running bar, which didn't open until 9 o'clock in the morning. Just imagine having to wait until 9 o'clock for your first drink! But it was all good fun with Sidney and his classmates.

Retirement is one of the many things that we have to expect is going to happen to us, now that we are over the 60 mark, and we are beginning to hear about more and more of it. On a trip out West this summer, we had hoped to see Carl Dunn in Chicago, but he wrote that he couldn't make it; however, after retirement next year he will be with us oftener. The day we got to Chicago, it was sweltering, so we couldn't take the boat trip Carl suggested. Carl writes: "Very nice to receive your letter and to hear of your vacation trip so far away from Boston (look out for Indians and gun slingers). We leave Chicago about July 1 and go up to our cottage for most of the summer. This hideout is 400 miles north of Chicago near Lake Superior. Suggest

you take Fran on a motor boat ride from the Michigan Avenue Bridge out and along the waterfront. I have been very busy so far this year, including one month in India. Spent a day with Ben Neal at Lockport, which was very pleasant. I will be retired before next spring, and hope to attend the class days hereafter, as long as health permits. With our best regards," De Witt C. Ramsay, Executive Vice-president of Smith-Ramsay and Company, investment brokers, of 207 State Street, Bridgeport, retired July 1. He will continue to serve on the Board of Directors. He lives at 230 Toilsome Hill Road, in Bridgeport, Conn., and has a married daughter. At last time has caught up with the dynamo of the class, Louie Young, who retired April 1 from the Gillette Safety Razor Company in Boston. In 1938 Louie left his own consulting engineering firm and went with Gillette as superintendent. In 1943 he was made Vice-president, and in 1944 a director. He holds numerous patents, including one for the Blue Blade Dispenser. Louie focused most of his energy and attention on research and development for Gillette, and even during retirement he plans to continue this work in an experimental laboratory at home. Louie and Pauline live at 233 Grove Street, Auburndale. We can all remember Louie as a ball of fire at our reunions and class dinners. On June 1 Al Sampson retired as resident manager of the Boston office of the National Aniline Division of Allied Chemical and Dye Corporation. Al was one of the deans of the dyestuff industry in New England, and had served in many capacities in the professional textile chemical societies. He and Anne live at 9 Thorndike Street, Beverly. We wish all these classmates a pleasant, happy and enjoyable life in retirement, in return for the years of devoted work they have given their companies. Gabe Hilton retired some time ago, and recently he and Tess moved to Bellair Estates, Clearwater, Florida. Oddly enough, my retired brother lives there; so when we visit him in March, we will probably have a chance to see Tess and Gabe.

The annual report of the Boston Manufacturers Mutual Insurance Company and the Mutual Boiler and Machinery Insurance Company, both of Waltham, Mass., and of both of which Jack Dalton is president, show the results of Jack's able and energetic leadership, with such statements of success in their reports. Our classmates keep in the news for the many outstanding and constructive things they do, in industry and for their fellowmen. Ted Spear, Vice-president of Oxford Paper Company, Rumford, Maine, spoke on August 23 as president of the Associated Industries of Maine, at the 37th annual meeting in Poland Spring, on "The Industrial Climate in Maine." The theme of Ted's talk was, "You can't be a little bit for industry today, and a little bit against it tomorrow. Responsible management cannot risk the capital of stockholders upon such a blow-hot, blow-cold attitude." Howard King, Vice-president and Chief Engineer of Mason and Hanger-Silas Mason Company, Incorporated, New York City, who directed the construction of the North and South

Tubes of the Lincoln Tunnel and is now consultant for the Third Tube of the Lincoln Tunnel, was named "Metropolitan Civil Engineer of the Year" in New York City in May. The selection was made by the 3,700-member metropolitan section of the American Society of Civil Engineers. Howard was designated as being "outstanding in the field of tunnel construction," and as having done "a work of wide public interest." Last year Howard was awarded the Moles' Award. This is given by an organization of heavy underground construction men.

Larry Landers was in charge of the Business Men's Council of the Combined Jewish Appeal in Boston, and directed the work through a successful campaign. In February, 1957, the M.I.T. Regional Conference awarded Bill Holway a certificate which read: "The Alumni Association of the Massachusetts Institute of Technology honors William Rea Holway, Loyal Alumnus of the Class of 1915, who, through his courageous and far seeing vision, has contributed so abundantly over four decades to the welfare of his fellow citizens of Oklahoma." This is an outstanding honor for Bill, and reflects credit on 1915. On May 2, 1957, at a banquet of the Massachusetts Public Health Association in Boston, the Lemuel Shattuck Award was given to Stanley H. Osborn. Stanley is Commissioner of the Connecticut State Department of Health, and is a member of many professional associations which include both national and state major medical and health organizations. The citation read that Stanley was selected for this award as "one of those eminent medical men who have, as individuals, nobly used the means which their superior position and knowledge have placed within their control, in the prevention of disease, and in the promotion of public health." On July 8, Allen Abrams addressed the Southern California Industry Education Conference at Lake Arrowhead, California on the subject "Industry's Responsibility to Education." Since retirement, Allen is a consultant to Arthur D. Little, Inc., Wausau, Wis. This is indeed an imposing list of awards to our classmates, and sets them out as being men active in professional and community work, and willing to give of themselves and their time to help others. Congratulations from our class to them, and best wishes for success in their noble endeavors.

Ralph Hart has had some correspondence with Charlie Kramer, from whom we haven't had a word in all these years. I hope Ralph was able to see him on a date they planned in Havana, and get Charlie interested in class activity. Our nomadic classmates continue to roam. From Trinidad Herb Anderson sent a pretty postal: "Thank you for the snapshot you sent of us on the golf course at our 35 Reunion in Falmouth." From Fort Collins, Colorado, Parry Keller sent a post card picture of Saw Tooth Ridge, and said: "I am spending some time in this part of the country and am enjoying every minute. I like the mountain trips, and I consider this part of Colorado the Switzerland of the United States." Just previously, from California Parry had written: "I cannot begin to say how sorry

I was to hear about the death of our classmate Henry Sheils. We will miss him very much in many ways. I am on a business trip in the West. So far I have been to Denver, Los Angeles, Seattle, and am now in San Francisco. I am leaving for home tomorrow. I had lunch today with classmate Henning Berg at the Fraternity Club of San Francisco. Henning is fine and we had a very enjoyable time together. He asked to be remembered to all the gang. As far as I know now, I should be back at M.I.T. on Alumni Day, June 10. My best to Fran." Sol Schneider retired and is living at 310 Washington Avenue, Havertown, Pa. He writes: "It was good to see you while I was in Boston in April. I got a shock when Jac Sindler told me about the passing away of Henry Sheils, even though we knew about his operation, for Henry was a very sick man. I attended the 60th Anniversary dinner of the M.I.T. Club of Philadelphia and greeted the following classmates: Andy Anderson, Dick Bailey, Henry Daley, Grev Haslam, Clifton Jacobs and Ed Whiting. I had not seen Clifton Jacobs, Course X, since we graduated in 1915, and it took me a few minutes to place him, for he had changed so much; but we did have an enjoyable visit, reminiscent. I told Andy that you expected to be in Philadelphia in the fall, and of course he said that we would all get together for a party, and Clifton Jacobs said that he will attend any functions that we would have. So, we are looking forward for your visit. I shall be pleased to hear from you. Will close now with kindest regards to Fran and you, from Ann."

And of course we can usually count on a good word from Jim Tobey, who writes as follows: "Having returned to the Arctic regions and having begun to try to catch up on my reading, I noticed with horror a slight hiatus in class news, and so decided to write Azel and give him, the old reprobate, a little news. Aside from the fact that we came back from Florida in a snowstorm and have had filthy weather ever since, and I don't like it, the principal news is that my daughter produced her fourth boy on March 22 in Bangor, Maine. Named James Scott Hoisington. That makes eight grandchildren, four in son's family and four in daughter's. Of them, six are boys and two, if my calculus is correct, are girls, showing that males predominate in the Tobey menage. We were looking for you in West Palm Beach in March and were sorry you did not make the Platinum Coast. Next year we will be there until the middle, not first, of April and escape this ineffable N.E. climate. I hope to see you then, if not sooner, and I am looking forward to our 75th class anniversary." A little later he wrote: "I was indeed sorry to hear of the untimely death of Henry Sheils. Please convey my sincere condolences to his family. I agree fully that he was a swell guy, one for whom I had a high regard and genuine affection. I thought he was not too well at the time of our reunion at Coonamesset. I have just been down to Yale to edify the boys and girls in the graduate department of public health in the Medical School on my specialty, public health

law. Have two more lectures to give. I surely hope to attend the Alumni Day exercises."

This really is a column of notes to open up this new year, but frankly it consumed everything I had collected since last spring. So if you want the column to continue in the same way, "Help Azel." — AZEL W. MACK, *Secretary*, 100 Memorial Drive, Cambridge, Mass.

1916

Considering first things first, and for the information of other classes (how many can match this on or around their 41st Reunion?), we'd proudly like to announce the arrival on June 6 of Rebecca Ann Fletcher, the new offspring of our worthy Class President, Ralph Fletcher. This was a high-light topic of the Reunion. Best wishes and boxes of little things were joyfully sent off to Ralph's better half.

Before getting to the Reunion story, we want to report on the pre-Reunion dinner in Boston on May 20 at Joseph's, corner of Dartmouth and Newbury Streets. In attendance were Steve Berke, Howard Claussen, Dan Comiskey, Bob Crosby, Paul Duff, Ralph Fletcher, Dick Hunneman, Emory Kemp, Freeman Hatch, Jr., Joe Minevitch, Doug Robertson, Harold Russell, Bridgie Webber, and John Woods.

The Alumni Day activities on June 10 were attended by many of these and also by Joe Barker, Vannevar Bush, Art Caldwell, Percival Gooding, Shatswell Ober, Hy Ullian, and Don Webster. And the Class Cocktail Party on June 10 included Mr. and Mrs. Hy Ullian, Mr. and Mrs. Percival Gooding, Mr. and Mrs. Steve Berke, Colonel and Mrs. William Brown, Al Lovenberg, Ralph Fletcher, Shatswell Ober, Mr. and Mrs. Tom Holden, Mr. and Mrs. Isidor Richmond, and Mr. and Mrs. Joe Barker. We're not sure that this list is complete—many brought guests, but the records are not clear, so we'll not try to name them.

And now for the report on the 41st Reunion which was held in the delightful quarters of the Chatham Bars Inn in Chatham on Cape Cod. We were fortunate in being assigned quarters in the choicest cottages right out front on the cliff overlooking the ocean. Arrangements had been made for the *Mayflower* to pass by during our two days at Chatham, but she slipped by during the night. Attendance was on the low side, but the attenders report that it was one of the coziest of reunions. Ask any of the following: Mr. and Mrs. Joe Barker, Mr. and Mrs. Arvin Page, Mr. and Mrs. Izzy Richmond and daughter Jean and Jean's husband, Mr. and Mrs. Steve Berke, Harold Dodge, Bert Ellis, Leonard Stone, John Woods, Ralph Fletcher, or Emory Kemp. Emory lives only a few miles further down the Cape at Wellfleet so was right on hand early every morning and until things stopped buzzing every night. One of the most notable absences was that of Jim Evans—this was so sharply felt that there grew up a spontaneous demand to concoct a wire telling him so. The golfing was good—a fine nine-hole course is practically attached to the Inn.

The meals were excellent. The swimming was said to be good—mostly by the youthful 1937 Harvard 20th Reunioners who were staying at the same place at the same time.

And that leads to one of the best topics of the Reunion. It seems that on the evening of the two Reunion banquets—Harvard 1937 and M.I.T. 1916—the large hall was taken over by the former and a smaller room by us. And we noticed that a very nice young lady was obviously being excluded—by the rules, no doubt—from the main dining room where the Harvard dinners and stories were going on. In the interests of chivalry, good manners, and excellent judgment, we approached her, and finding that she was in fact a lone Harvard wife who was being excluded from the Harvard affairs, we invited her to join our party. She graciously accepted, this charming wife of Mr. Bill Cann, Harvard '37, and we were proud to count her as one of us throughout the evening. Friend husband, Bill Cann, expressed delight and appreciation—at first it appeared to him as an unheard-of kind of event in Harvard-M.I.T. relations; subsequently he expressed the depth of his feeling by calling us “the most charming class of any college in his knowledge,” and indicating that he might now send his son to M.I.T.! Really nice folks; those who receive a copy of the Reunion picture will now understand the significance of the added bundle of charm that appears in our midst.

Other items observed during the Reunion, as expressed in the Jim Evans fashion: Steve Berke telling some Harvard '37's about Prexy Lawrence Lowell's 1927 discovery in the Harvard Yard—bits of crockery—his asking Steve where he was having the stuff dumped, and his resultant findings of crockery for a whole series of Harvard plates, Wedgwood china; somebody itching to throw firecrackers in the Harvard 1937 dining room; Arvin with his golf and continual good humor; John Woods selecting the wines for dinner; Joe Barker and his amazing wardrobe of red things, including a blood-red blazer; Mary Barker and her plans for the Purity League to observe the reputedly low level of entertainment of Harvard classes; Peb Stone and Harold Dodge and their golf games; Bert Ellis and his high-up feeling with a daughter going to England for some months to work on a Ph.D. degree; Emory Kemp and his retirement plans; Ralph Fletcher and his keeping things going; clear blue sky for two days and several overexposed torsos; watching in vain for the *Mayflower* so as to be able to shout “Yoo hoo” and “Hi”; frequent meetings on the porch of Cottage No. 3 to take stock of liquid refreshments; the large 1916 banner fluttering proudly in the dining room; superb outlook from Cottages 2 and 3 on moonlit nights; Mary Barker's and Clare Page's antiquing in Provincetown and Orleans; Bob O'Brien's (Ralph's secretary) wealth of information on why many didn't come; and finally (on the way home), Len Stone waving them over while Harold Dodge goes for help on the highway as Joe and Mary Barker stand by the rear flat tire on Joe's car!

Many of the postcard responses to the call for the Reunion indicated that plans to be in other parts of the country would interfere. And there were still several who were attending college graduation exercises for sons or daughters. Francis Stern, for example, was scheduled to attend an annual meeting—he has been active in Hartford's Chamber of Commerce and is currently chairman of the Wholesale Division. Hal Neilson was scheduled to be out in New Mexico. George Allen was to be in San Francisco. And George Maverick was to be graduating his first class in the University of Virginia since he took over his new post there.

Don Webster hoped to get a look-in at Chatham Bars; his sister has a cottage in Orleans on the Cape nearby where he expected he might be located at Reunion time. He didn't make it, however; the Reunion came just between graduations of his son, Peter, at Trinity College in Hartford and twin son, David, at Bowdoin.

Earl Mellen's letter of regret (inability to attend the Reunion) mentioned that there are no new grandchildren—now standing at 11. He notes: “Our youngest daughter, Carol, is a sophomore at Upsala College. She was selected to be one of a group to take a tour with the Upsala Choir which covered many prominent cities in New England just before the Easter period. She also is quite an artist and a poet; four of her poems appeared in the Upsala literary publication.”

We had word from Dip McClure that something always seems to happen during the first two weeks in June to make it impossible to make the Cape. He goes on: “After this, the only possible excuse for not getting to later reunions will be purely financial. At any rate, keep me on your list but with the new address of Bluemont, Va. We have a place near there on top of the Blue Ridge and about 50 miles from Washington, and are looking forward to moving out within the next month or six weeks to take up permanent residence. I have a couple of mint beds and usually manage to have a fair supply of bourbon to take care of any poor souls lost in the mountains. Do come by and see us some time when you are in this part of the country.”

Prints of the May 1 New York dinner went to all those who attended. Stew Rowlett, in acknowledging his copy, said he was amazed at how young and chipper we all look in spite of 40 years of more or less hard knocks. We all appreciate the publication of this picture in the July issue of *The Review*. Stew wrote that instead of some grand fishing like last year, he and his took a jaunt to the Pacific Coast from Los Angeles on up through Victoria, Vancouver, Jasper, Lake Louise, Banff and Calgary.

In May we had a letter from Arthur Shuey, saying that our letter arrived in Shreveport while he was in New York, and he *could have* been with us on May 1. Sorry this happened. Those coming to New York should call Joe Barker, Steve Brophy, Bill Barrett, or your Secretary for information on current goings on. Arthur goes on: “As you know, we are all getting a little older and don't work

as hard, so travel more and have more time for grandchildren than we had for our children. We now have eight, and more coming.”

Nearly everywhere of importance, it seems, we see the smiling countenance of Vannevar Bush. Looking through the July issue of *The Review*, for example, we see him in a picture on page 505, bearing the caption: “Philip M. Morse, left, will direct the new Computation Center which, in a way, is modern counterpart of the differential analyzer developed by Vannevar Bush, '16, (with glasses). President Killian joins in dedication ceremonies as Thomas J. Watson, Jr., right, pushes button putting computer into official operation.” We see him again on page 507 in a picture showing part of the head table at the Commencement Day luncheon in the Great Court. And again at the head table on page 511. Professor Charles Wareham appears in a picture of the luncheon on page 510. Hovey Freeman and Willard Brown were mentioned as “Individuals Noteworthy” on page 484, Hovey becoming secretary of the National Fire Protection Association, and Willard, president of the Cleveland Engineering Society. (We'll give a more complete story about this in the December issue). Also, Joe Barker—an honorary doctorate of engineering by Rose Polytechnic Institute.

The May 28 issue of the *New York Herald Tribune* gave an excellent write-up of Steve Brophy, making reference to his retirement this fall. Steve has been very much in our news throughout every year, and the writer, Joseph Kaselow, got to know some of the wonderful things we have known about Steve for a long, long time. It is interesting to note the high degree of praise from the profession in which he has been a leader so long. For example, the article starts off like this: “Thomas D'Arcy Brophy, a figure of standing in the advertising, selling, and public service fields for more than 40 years, who is retiring from the advertising agency world on September 30, is very emphatic on one score: ‘I'm retiring from business,’ he says with a slight laugh, ‘not from life.’ And anyone who has known this vibrant, good-humored man and his many interests, won't find this hard to believe. The post he is leaving is chairman of the board of Kenyon and Eckhardt, Inc., an advertising agency that placed some \$83,000,000 worth of advertising last year. But Mr. Brophy has a list of titles, honors, and affiliations that fills at least three typewritten pages—so that anybody who says he is ‘retiring’ without adding ‘from the business world,’ is treading on thin ground indeed.” The article mentions, among other things, two rules that Steve developed in the early 1930's relative to radio advertising: “The importance of reiteration of factual information, and the use of the star of the program to give believability and acceptance to the product commercial. The first point, moreover, provided the basis for an advertising primer that Mr. Brophy expounded on many occasions. It consisted of three points; keep it simple, say it often, and be sure it's true. Without these three rules, he says, an advertiser is pouring his money down the drain.

But Mr. Brophy considers the second the more important of his two findings — getting the star of the program to deliver the commercial. This hadn't been done before, but, after he was discharged from the hospital, he took it up with Edgar Bergen on one of their programs, and that's where it started. 'We more or less pioneered that idea,' he says. Now, of course, the leading example of this principle on the K. and E. list is Ed Sullivan for Lincoln-Mercury." We of course are all familiar with a number of Steve's public-service contributions, including the American Heritage Foundation of which he was president from 1947 to 1955, and the *Freedom Train*, which toured the nation for 17 months and reached 55,000,000 people. He has received numerous advertising, educational, and civic awards. We feel quite sure his retirement will be what Kaselow has called an "active" retirement.

Those of you who live anywhere near Plymouth probably have heard the terrific story about Charlie Lawrance and the job he did in reference to the May 8 to 10 forest fire. We received a letter from O. W. Stewart '11 of Kingston who felt that 1916 should know the story about the "yeoman job" Charlie did. "In his retirement here in Kingston, Charlie has been Civil Defense Director, persistently building up staff and acquiring equipment in spite of general indifference. That in itself is worthy of commendation, but the pay-off came when Charlie went over to Plymouth shortly after the fire started and set his organization to work. Imagine that; for a small town like Kingston to really direct Civil Defense in a serious emergency in a big town like Plymouth!" A copy of the local newspaper, *The Silver Lake News*, for May 16 has Charles W. Lawrance in nearly every paragraph of the story — a tremendous tribute to what went on. We wrote and asked Charlie about it, and you know Charlie. He says all that credit is not so completely deserved. He sends another picture which he says shows who really did the work, and so forth, and so forth. But we believe O. W. Stewart '11 and the newspaper. Charlie gives some interesting information: "There were some 3,000 to 5,000 men involved, and best of all no fatalities and but 20 accidents, including minor burns and foot injuries. An astonishing number of houses were saved (well over 100) by valiant and dogged fighting as the fires swept over and around them. This was the very worst fire in Plymouth's history, with very heavy property damages and many serious situations and threats, but minimum personal injuries. Boy, what cooperation we got! The enclosures will give you a fairer idea of who did the work." Fine work, Charlie; we're proud of you!

We regret to report that Raymond Stowell died at his home in Mattapoisett in June after a long illness. Ray was an architect who earned recognition very early in his career. As a matter of fact, in his senior year he was awarded the silver medal from the Société des Architectes Diplômés pour le Gouvernement Français. In 1920 he designed the Citadel Military College of South Carolina. He designed many types of structures including eight

apartment houses in Boston, Brookline, and Quincy; the Lowell Masonic Temple; the Union Theatre in Attleboro; Attleboro Savings Bank in North Attleboro; approximately 250 private homes costing up to \$50,000; and the Engineers Club of Boston. He also designed Chelsea Senior High School, the BMC Durfee Technical Institute, and a number of buildings in his own home town.

We also regret to report the passing in June of Murray Horwood, who had been a professor of sanitary science at M.I.T. for many years. He was also a lecturer in many colleges on public health, hygiene, and bacteriology, and was noted for surveys that he had conducted on public health and tuberculosis in many New England communities and throughout the nation. In 1952 he was named to head the M.I.T. education project at the University of Rangoon, Burma, and spent two years there.

In July we were shocked to hear of the sudden death of Joe Minevitch — he had attended the Boston Class dinner but a few weeks earlier. For 31 years, Joe was associated with E. B. Badger and Sons Company and the Badger Process Division of the Stone and Webster Engineering Corporation. In 1955, he left Stone and Webster to enter private practice as a chemical engineer and consultant. Early this year he formed J. R. Minevitch and Associates, Incorporated, designing and engineering service for chemical plants. He was active for many years in the Chemists Club of New York City and in numerous professional societies, including the American Institute of Chemical Engineers, the American Chemical Society, and the Society of Chemical Industry; and perhaps equally important Joe was a consistent attendee of our reunions.

Letters of sympathy have gone from our President to the families of these classmates.

Jim Evans, the old reliable, mentions seeing Moose Jewett on a business trip to Buffalo early in July. Says Moose is vice-president and chief engineer of Spencer-Kellogg, who have their headquarters in Buffalo. Jim writes: "Moose's father was a very celebrated doctor in Buffalo; his son Ted, Jr., is a doctor, and his daughter, a doctor's wife. Here's a good example of 'skipping' a generation! Moose surely is in good health and again I say, just as I said when I met Dick Hunneman at the Motor Boat Show in New York, these 1916'ers are a hardy bunch of men, and may they continue to enjoy such health." Jim says he also saw George Tuttle in Buffalo: "He is with Bell Aircraft there. He seems fine too." We understand that Jim visited Ralph Fletcher and his quarries and his secretary, Bob O'Brien (honorary 1916), late in July and, as Bob says, "... was in his usual good humor."

We have a copy of "Retrospect and Prospect," an address made in May before the Annual Meeting of Stockholders of Standard Oil Company (Indiana) by our own Bob Wilson, Chairman of the Board. There are a couple of paragraphs in this address that are of special interest to all of us, and they're so well said we'd like to reproduce them here. Following

mention of a number of encouraging things, Bob mentions some clouds on the horizon: "I am disturbed at the growing tendency on the part of certain unions — and I'm not speaking of those with which we mainly deal — to insist on an even shorter work week than the present one of 40 hours. Some day that may come, but with the present shortage of labor, and particularly of skilled labor, I think it is folly for us to think we can keep our present lead over Russia when they — and most other European countries — are working 48 or 50 hours a week regularly. . . . Another serious cloud I see on the horizon of our enterprise system is the increasing threats of governmental interference with the American competitive system which has meant so much to our nation. While the present administration has slowed down the trend toward socialism and inflation, the forces pressing in that direction are still strong, and the trend toward more and more regulations and restrictions on competition seems to be even stronger than ever. Unfortunately, the habit is growing in almost every segment of our economy — and, indeed, of the whole world — of running to Washington for help instead of practicing old-fashioned self-reliance."

Before signing off, your Secretary wishes to (1) express appreciation for the wealth of information that has been sent in in response to requests for news late last spring and during the summer, (2) announce the arrival of a third grandchild, a second son of son Stuart in Wayne, Pa., and (3) report a nice talk that he had in London on the telephone with Ed Weissbach in July, and (4) urge that you fill out and send in that M.I.T. Alumni Fund form that Joe Barker and Bill Barrett sent to you with their letter of July 25. To keep our column full and interesting and wide in coverage, please write a little and write often — whom you've seen, what you've done, where you've gone, and what you've been doing. — HAROLD F. DODGE, Secretary, Bell Telephone Laboratories, 463 West Street, New York 14, N.Y.

1917

For the first time in the writer's memory, the Class Notes will not be signed by Ray Stevens as Class Secretary. Ray decided that being President of A. D. Little was too time consuming to do full justice to 1917 secretarial duties. However, Ray will be on the job as Class president during the next five years. Your Secretary and Assistant Secretary will, with your help, try to keep the 1917 column in *The Review* filled with interesting notes. Business promotions or assignments, vacation or business travel, excursions into political life, what you are going to do after retirement, or just bringing us up to date on your children or grandchildren will make interesting reading. Don't wait for us to send you a reminder.

We regret to report the following deaths: Leander H. Hills on January 13, John B. Dickson on June 24, Gilbert A. Hunt on July 16, Kenneth L. Harper on May 9.

Retirement news, including reports of retirement activities, should make inter-

esting reading over the next five years. Ralph Ross, whose retirement we announced previously, has been named as president of the Board of Trustees of the Brightlook Hospital, Lyndonville, Vt. He has also been active in the building program being carried on by St. Johnsbur Academy of which he is a member of the Board of Trustees. Carl M. Gilt reports retirement from The Consolidated Edison Company of New York on March 31. He held the post of assistant purchasing agent, after being with the company for 34 years. He has moved to Princeton, N.J. The Meriden, Conn., *Journal* reports the retirement of Philip B. Watson as plant manager of the Wallingford plant of American Cyanamid Company's Plastics and Resins Division in August. Phil will continue in the company's service, acting in a consulting capacity in several areas, particularly in manufacturing, and industrial and public relations fields. In addition to many local activities Phil has been vice-president and chairman of the public relations committee of the Manufacturers Association of Connecticut. In July T. E. (Ted) Stahl retired as works manager of the Bettendorf plant of J. I. Case Company. Ted has been active in industrial and civic affairs of the Quad-Cities area in Illinois. Paul F. Dudley of Milton, Mass., who for 35 years was a manager of a manufacturing plant in Hyde Park, Mass., has been named a member of the Board of Sewer Commissioners.

The *Aeronautical Engineering Review* of June, 1957, reports that Ed Warner has been named first honorary member of the International Society of Aviation Writers at the new organization's first general meeting. The honor was given to Dr. Warner "in recognition of a lifetime of inspiring leadership and devoted effort in the cause of internationalism, civil aviation, aeronautical education, and professional aviation writing." Another news release states that Ed has retired from the presidency of the International Civil Aviation Organization, a United Nations specialized agency made up of about 70 co-operating nations. In addition to heading the I.C.A.O. Council, Ed has been assistant secretary of the Navy for Aeronautics, editor of Aviation magazine, a staff member of the Civil Aeronautics Authority and Civil Aeronautics Board, and the first United Nations Delegate to the I.A.C.O. Congratulations to Thorndike Saville, who in June 1957 received an honorary degree of Doctor of Science from New York University. The Citation reads as follows: "Thorndike Saville, Professor of Hydraulic and Sanitary Engineering and Dean of the College of Engineering, on the eve of retirement after 25 years of service to this university, is presented for the degree of Doctor of Science, honoris causa. . . . He has risen to the status of international authority on water supply, hydrology and coastal engineering. . . . He has attained unparalleled personal recognition in the profession, having served its highest offices, including the presidency of the American Society for Engineering Education, the Engineers Joint Council and the Engineers Council for Professional Development. . . . His shield might well bear the legend 'cogito ergo ago', suggesting, in effect, that he knows where he is going

and he is on his way. We bid him god-speed."

Under the title "M.I.T. Keys Dynamic Approach to Business Training" and a two column picture of our Penn Brooks, the *Christian Science Monitor* of June 20 tells how M.I.T.'s School of Industrial Management is meeting the needs of modern business. Penn is quoted as saying: "The rate of technological change is so fast in our business world, we need men who can adjust to it." The business school under Penn's direction is keeping up with Institute progress. Homer Ling broke into the news of May 10 under the heading "Homer Ling Helps Underwood Make 'Light Touch' Machine." The story states: "At Underwood Corporation's General Research Laboratory (Hartford, Conn.) a staff of 20 human engineering experts recently climaxed more than two years of research to meet the demand for a typewriter with a greater, more responsive touch. The problem of determining by scientific study the many individual factors that collectively make up 'touch' was assigned to Homer Ling at the Hartford Laboratory. Mr. Ling had formulated precise mathematical methods for measuring the seemingly intangible qualities of what secretaries call the 'touch' or 'feel' of a standard typewriter. How to reduce this necessary expenditure of typing energy to an absolute mechanical minimum was the complex problem undertaken—and solved — by Mr. Ling and his staff." Congratulations, Homer.

Jack Wood practices what he preaches about sailing. In June he brought Ernest Wester's *Blond Squaw* home (at Marblehead) in the van of the International One-Design Class for his second big victory of the week. This followed a triumph in the Lukens Trophy competition at Annapolis. Brian Curtis of St. Helena, Calif., reports that he has been acting as fishery consultant for Pacific Gas and Electric Company since retiring from the State Department of Fish and Game. He has been trying to provide a factual basis for the answers to the question: How much water for fish?—How much water for hydro-electric power? Dutch (Francis V.) duPont has been recently nominated by the Alumni Association for the position of Alumni Member on the M.I.T. Visiting Committee for the Department of Civil and Sanitary Engineering. J. Worthen Proctor, who retired as colonel of the Ordnance Department of the United States Army in 1950 is another 1917 man who has found post-retirement activity. Worthen brings us up to date as follows: "After 33 years of commissioned service in the Regular Army, I was retired for physical disability on December 31, 1950. My whole service was in the Ordnance Department, in which I had many interesting assignments and good commands, among which was the building up of Ogden Arsenal, Utah, in 1940 and 1941. My last, and by far most interesting, tour was four years in Germany from 1946 to 1950. I was in command of the Ordnance Depots at Nordenham in North Germany, and at Griesheim near Frankfurt am Main. In this capacity I came into very close contact with the people and their community life and problems. During these years, I saw them progress from an apa-

thetic, down and out people, to the start of a going concern. We made many friends in all walks of life among them.

"While there, we were able to make many short vacation trips during which we visited Luxembourg, Belgium, Holland, France, England, Scotland, Italy, and Salzburg and the Tirol in Austria. On a trip to Berlin and Potsdam, I ran into John C. Platt, who was then signal officer of the Bremerhaven Port of Embarkation. After I began to regain my health and strength somewhat, I became quite dissatisfied with retirement, which never had held any charms for me. In the summer of 1954, I received an appointment in the Department of Mechanical Engineering at Bucknell University which gave me a most welcome opportunity to be busy again. I teach heat power (primarily steam engineering) heat transfer, industrial management and engineering laboratory. My classes are all seniors and are a most interesting group of keen young men. This position makes it possible for us to have three months free for travel each summer. In 1955, we revisited Puerto Rico and Panama after an absence of 25 years. In 1956 we drove to Mexico, and this summer we have just made a general European tour. Most of the time we were in Germany visiting old friends and familiar scenes, but in addition we visited Denmark, Sweden, France, Spain, Portugal, the Riviera, northern Italy, Switzerland, and Vienna. By 'we' I mean Dorothy, whom many of the class will remember (we will observe our 40th anniversary on September 8) and our younger son, Robert. We are now well traveled out and ready to return to Bucknell where Robert will enter as a freshman with Mechanical Engineering in view. I will start my fourth year of service in September.

I was very sorry indeed to miss our class reunion at Wentworth in June as I had looked forward to it for a long time. The volume of work in closing out the year at Bucknell was so great that I could not get away until the following week. To all the classmates I send cordial greetings."

Our very successful "co-educational" 40th reunion is a matter of history, and by the time that these notes appear you will have had a complete report in the *Reunion News* edited by Stan Dunning. We can now look forward to our 45th.

Under the heading "Today's Best Smiles" may we offer two samples: (1) "Now gentlemen," said the president of the company which manufactured baby bottles, "We have 50,000 of these feeding bottles on hand and the company expects you salesmen to go out and create a demand." (2) Nephew, at the bedside of rich uncle: "Is there no hope, doctor?" Doctor: "I don't know. What were you hoping for?" — W. I. MCNEILL, *Secretary*, 14 Hillcrest Avenue, Summit, N.J. STANLEY C. DUNNING, *Assistant Secretary*, 21 Washington Avenue, Cambridge 40, Mass.

1918

The strength of long and widespread tradition lies behind the custom of reporting first in the November notes the names of those who were putting a little frosting on their educational cake by being present on Alumni Day, so here goes: Julian and

Mrs. Avery, Eli Berman, Tom Brosnahan, Sam and Mrs. Chamberlain, Lester and Mrs. Conner, Sax Fletcher, Clarence and Mrs. Fuller, Al and Mrs. Grossman, Alan Howard, Julie and Mrs. Howe, John and Mrs. Kilduff, Ray and Mrs. Miller, Hall and Mrs. Nichols, John Norton, Gretchen Palmer, Alan (Pete) and Mrs. Sanger, Max and Mrs. Seltzer, Harold and Mrs. Weber, Royal (Bill) Wills. This may not be a complete list but includes everyone I know about. At the other end of the summer spectrum, and in equally bright colors, was a get-together on Sunday afternoon, September 8, at Sax Fletcher's place off Beaver Dam Road in Scituate, Mass. A more detailed report of that pleasant event should be forthcoming next month.

The remaining tidings divide naturally into two parts, each having to do with new adventures. In July we had a jolly picture postcard from Max Seltzer mailed while he and Selma were in Stockholm, "The Paris of the North." They were also in London and southern England during their trip, as well as in the land of Hans Christian Andersen, better known as Denmark. The Malden, Mass., *News* of July 9 had a three column headline reading "Ex-Malden Man Success in Metals Field, Chosen to Head up National Association." With this spirited splash of printer's ink is announced Phil Craighead's election as president of the Magnesium Association last June. Phil is also president of Magnesium Products, a fabricating concern in Milwaukee. Following a hitch in the Air Corps during World War I, he designed steel bridges. But "the wild blue yonder" was in his blood, so after a course in Aeronautics at the old stand, he became chief of structures for Bell Aircraft. In 1943 he got into the design of defense equipment for Safeway Products in Milwaukee. Two years later he organized Magnesium Products Company, starting off with three workmen in a basement. He now has 22. Harold Weber, chairman of the Chemical Corps Advisory Council, has been honored with a certificate of achievement, given for his "invaluable contribution to the Army Chemical Corps and the National defense effort from 1940 to 1957." Albert Haertlein, who is Gordon McKay Professor of Civil Engineering at Harvard, is also Associate Dean of Engineering and Applied Physics. Sax Fletcher has been nominated (tantamount to election) as an Alumni member on the Corporation Visiting Committee for the Department of Mechanical Engineering. The total membership is composed of three Alumni recommended by the Alumni Association, three from the Corporation, and three appointed by the president.

Changes of address have been reported as follows: Robert Wells from Cairo, Egypt, to Anaheim, California; Colonel Sam Rubin from Beverly Hills to San Francisco, California. Addresses are unknown for Kenney A. Burgess, Mrs. Marion C. Kenney, Kenneth E. Pote.

Terminal addresses have come to four more of us. News that Frank S. Boice died a year ago April at the Empire Ranch, Sonoita, Ariz., came to me in June, courtesy of Pete Sanger. Captain Cullen H. Want (U. S. Navy Retired) died last April at the U. S. Naval Hospital in Key West, Fla., and was buried in Arlington Ceme-

tery. Richard H. Smith died on July 6 of a brain thrombosis in an Arlington, Va., hospital. He was stricken on the Fourth of July at his home at 505 Monticello Boulevard, Alexandria. Outstanding in the field of aeronautics, Dr. Smith was invited by the Brazilian air ministry in 1945, while he was professor of aeronautical engineering at M.I.T., to make a survey of Brazil's needs in this field. His detailed report suggested they establish their own school to train engineers in all areas of aeronautics, and he was invited to serve as the first head of the government-endowed school. This he did with great distinction and devotion. Brazil's Order of Aeronautical Merit, Degree of Commander, was presented to Smith in ceremonies at the Washington Brazilian Embassy in May, 1954. After returning to this country, Smith was associated with the research division of the Department of Defense from which he retired last fall. He is survived by his widow, three children, and seven grandchildren. One of six brothers, Richard, was the first to go to M.I.T., to be followed by Charles '22, George '25, and Paul '36. His son Hubert and nephew Paul are also alumni.

Percy W. Carr, more affectionately known to us as "Shorty," died at his home in Maplewood on August 8 after a long illness. He started out as a salesman but soon rose to become a consulting engineer with offices in New York City. In 1951 he joined Curtiss-Wright as an administrative assistant to the general manager of the Wright Aeronautical Division in Wood Ridge. His final post was as general manager of the company's plastics division, and a member of the corporate staff. Shorty was also widely known as a judge at many of the major kennel shows, most appropriately being an expert in the dachshund division. I shall never forget the delightful comedy of his hunching down the corridor in the wee small hours of our 10th reunion, fire axe atop his shoulders. The heavenly choir just added a good organist and bass singer, too. — F. ALEXANDER MAGOUN, *Secretary*, Jaffrey Center, N.H.

1919

Congratulations to Charles A. Chayne, Vice-president in charge of the Engineering Staff of the General Motors Corporation, who has been elected as one of the Alumni Term Members to serve on the M.I.T. Corporation for a five-year term. He certainly does keep busy. In addition to the duties mentioned above, he also was one of the three Conference Hosts at GM's sixth annual Conference for Engineering and Science Educators which was held in July this year, and brought together 23 faculty members from 20 colleges and universities throughout the United States (including our own Dr. Hans Mueller from M.I.T.).

A card from Charlie, which was just received (September 4) says, "... as I am sure you know by now, I am one of the world's poorest correspondents. The automobile business is, of course, as competitive as ever and manages to keep us all busy. I am just about to leave on a combined vacation and business trip to Europe which will include visits to our

overseas plants in England and on the continent and also visits to Frankfurt, Paris and London shows." We hear that Charlie's hobby is "antique automobiles" and that he has a notable collection of them at his home in Bloomfield Hills.

Had a nice note recently from Alexis Wiiren who now lives some fifty miles out of New York City at 55 West Islip Road, Babylon, New York.

Louis A. Brown, Jr., writes that he "has no news of any real note." But says that he's still healthy and busy and keeps out of mischief — and is, therefore, happy — and thankful to be alive. He sends his best to all.

Royden L. Burbank writes to let us know that he has moved from Cambridge, Mass., to 17 Sharpe Road, Belmont 78, Mass. He's still in the insurance business at 260 Tremont Street in Boston, and says that he is also back mowing the lawn and working around the house... and "liking" it after four years in an apartment. He and his good wife have a little ranch house which he says is "just right for two."

A card from Thomas H. Bott, Jr., gives us the following vital statistics: Son: Thomas H. Bott, 3d, graduated from Columbia University School of Hospital Administration this year in June, and has accepted a position at the University of Pennsylvania Hospital in Philadelphia as assistant to the Administrator. Daughter: Joan, doing graduate work at Chicago University Theological Seminary. Son: David will be a senior in Mechanical Engineering at the University of Massachusetts in 1958. And Tom himself has been "married for thirty-five years"... and we assume is otherwise also in fine shape.

From *The Officer*, publication of The Reserve Officer Association, listed under Retired Reserves... "Colonel William H. Bassett, Scarsdale, N.Y. Bill served in World War I, World War II and the Korean Campaign. Since 1942 he has received two commendation awards for outstanding service, as well as certificates of outstanding achievement from the Third U.S. Army, The Far East Command and the U.S. Army Ordnance School." His two sons and his son-in-law served in the Navy during World War II, respectively in Alaska, Panama, and Hawaii. All of his children are married and Bill has six grandchildren to keep him busy in his retirement. While he has spent the last 16 years in the Army, much of it was in dealing with industrial problems. His inventions have done much in advancing the art in the aeronautical, railroad electrification, telephone, and power cable and magnet wire fields.

Edith Clarke is a professor of electrical engineering, and is on the faculty of the University of Texas. Her address now is 2207 San Antonio, Austin 5, Texas. (We'd all like to hear from you.)

Carley H. Paulsen has moved from Hingham, Mass., and his new address is 72 Rover Road, Wellesley 81, Mass. What else is new, Carley?

Alan G. Richards seems to have forsaken New England for 717 Pickford Street, Madison, Wis. Drop us a line, Alan!

Morton A. Smith has moved East from Seattle, Wash., and now lives at 21 Brainard Avenue, Great Barrington, Mass.

We'll be glad to learn further particulars, Mort!

Bernard S. Coleman (Los Angeles) wrote in at the end of August. "Evelyn and I are sailing for Europe on the *Liberte* on Saturday, August 31 at midnight and will be on the continent for two months. This is our 35th wedding year (June 25) and we are looting the till. In London and Copenhagen I am planning to visit some of the excellent programs in the field of gerontology and geriatrics. On to Paris, Geneva, Zurich, Venice, Florence, Rome, Nice, Lisbon, and points in between. This will be quite a change from the committee meetings that keep me going like a pinwheel the year around. Grandchildren — Glen (2 yrs.), Billy (3 yrs.), Wendy (1 yr.) and another on the way! Getting there! Regards to all." Let us hear from you when you get back, Bernie!

A release from the National Bureau of Standards informs us that Dr. Edgar R. Smith is retiring after 31 years of service there. Ed has become widely known over the years and received numerous honors for his work in physical chemistry, including "heavy water," vapor pressures, electrical conductance, electrode potentials, pH measurements, isotopic composition of water from various sources, and so forth. Upon retirement he was chief of the Physical Chemistry Section. And Ed's wife, Mrs. Grace Hindman Smith, who was administrative officer of the Chemistry Division, also has retired from the Bureau, after 39 years of service. They will now live in their newly built house on Spring Cove Farm, on the Glebe River at Lottsburg, Virginia.

Word reached us circuitously that Ralph Gilbert, after 35 years service is swinging along still at the New York Telephone Company, and that he and his wife Ruth became grandparents last March upon the birth of Carolyn Lee Gilbert in Pittsburgh. She is the daughter of their son Robert, who is a candidate for math Ph.D at Carnegie Tech. Ralph's daughter Ann has started teaching high school, and has had a fellowship this summer at Harvard where she took bio-physics at the Medical School. Glad that all is going well. Let us hear from you from time to time, Ralph.

We are glad to report that Frederick J. Given and Donald W. Kitchin have been nominated by the Alumni Association for the position of Alumni Member on the M.I.T. Corporation Visiting Committee; Fred for the Department of Electrical Engineering, and Don for the Department of Mathematics. The purpose of the Committee is to give the department the benefit of advice and opinions of an interested group other than those actually connected with the M.I.T. Faculty or Administration. New address for Henry Blumberg, we hear, is 17 Leewood Circle, Tuckahoe, New York.

Card from William R. Osgood notes that his home address now is 5 Washington Place, Troy, New York, and school address is Department of Mech., Rensselaer Polytechnic Institute, at Troy. Give us more news next time, Bill.

We sort of lost track of Fred Clafin, but have just learned that he is thought to be living on School Street at Southboro, Mass. Let us hear from you, Fred!

It is with great regret that we announce the passing of Francis J. Coyne at the Fitchburg (Mass.) General Hospital on August 21 after a short illness.

Does anyone know the present addresses of John J. Murphy, Jr., or Don Mariano F. Lichauco? Last known addresses are apparently no longer correct. — E. R. SMOLEY, *Secretary*, The Lummus Company, 385 Madison Avenue, New York 17, New York.

1920

Alumni Day last June saw an unusually fine turn-out of classmates, among which your secretary regretfully was not included as he was out of town on business that week. Those who brought their wives included our president, Norrie Abbott, Perk Bugbee, Alan Burke, Bud Cofren, Jim Gibson, Pete Lavedan, Jimmy Moir, Wilford Hooper, Johnny Nalle, Jesse Doyle and Dick Soderberg. Also seen at the luncheon or banquet, or both, were Ed Ryer, Bill Dewey, Foster Doane, Frank Badger, Harold Smiddy, Ernie Whitehead, Bob Patterson, George DesMarais, Irwin Harsch, Bat Thresher, and the Wason twins.

Frank Badger was kind enough to honor me with a visit that same week and I was able to show him my three-dimension color pictures of his nice motel at Hollywood Beach, Fla., and of our last Class reunion. I think Frank would tell you that these reunion pictures are worth a look if, as, and when you get in the vicinity of 9 Newbury Street, Boston.

It is a pleasure to report that Scott Carpenter was married last June to Mrs. Gladys Bartlett Wirt of Holyoke, Mass. Scott is a member of the staff of the Lincoln Laboratory in Lexington and is living in Lexington.

Irwin Moore, president of the New England Electric System, officiated at the dedication exercises of the multi-million dollar Samuel Seymour Station between the Vermont and New Hampshire state lines earlier this year. Moore began his public utility career as a rodman on a surveying party along the Deerfield River. He has been president of New England Electric since 1941 and is recognized as one of the outstanding utility men in the nation. Ed Ryer has been elected a member of the Board of Trustees of Massachusetts Memorial Hospitals. Ned Murdough has moved from South Acton, Mass. to White Plains, New York, address 27 Longview Avenue. Mel Powers is now in Bronxville, N.Y., address 15A Lawrence Park Crescent. Amasa Castor has left Ft. Lauderdale, Fla., and is in Manchester, N.H. at 91 Bay Street. Professor George Manning has left Winchester, Mass., and is in Sao Paulo, Brazil. Dr. Igor Zavarine has moved from Bayside, New York, to Belmont, Mass. Fraser Moffat, Jr., may now be reached at 10 Rockefeller Plaza, New York City. David P. Brown has been nominated by the Alumni Association as Alumni Member on the M.I.T. Corporation Visiting Committee for the Department of Naval Architecture and Marine Engineering.

With a heavy heart I must report on several deaths of classmates. Segundo Ayala died in Ibarra, Ecuador in 1953.

Earle Fairbrother of Ontario, Canada, died in Detroit sometime last year. He was with Albert Kahn Associates, architects and engineers and was a member of the Michigan Society of Professional Engineers and the American Society of Heating and Air Conditioning Engineers. Dr. Ettore Ciampolini died in Littleton, N.H., earlier this year. He did graduate work in public health at M.I.T. during our time and received a degree with our Class. He was a practicing physician in Boston for several years.

Through the kindness and cooperation of Dan Patch, M.I.T.'02, I have further information on Bill Schimmelpfennig, whose death was announced in these notes early this year. Bill had become a very important individual in Puerto Rico and his death received a great deal of attention in the Puerto Rico press. In 1945 he formed the partnership of Schimmelpfennig, Ruiz and Gonzalez, architects and engineers. This was a very successful operation and responsible for many important buildings, including the Casino de Puerto Rico, the remodeling and additions for the Psychiatric Hospital and the College of Engineers building. Bill was responsible for many housing projects all over the island and for a great amount of work done for the public housing authorities. He had lived in Puerto Rico since 1923. His work included some of the design of the Capitol and he considered his masterpiece the tower for the University of Puerto Rico, which is a very handsome building indeed. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

1921

Greetings! Welcome to this first session of our 37th year of swapping yarns of the doings of our classmates. This promises to be a busy year and a most unusual one in the annals of the Class of 1921. We hope you will try to join the group for one or more of the family gatherings. As you know, many members of the Class have requested that your officers arrange other social get-togethers in addition to the annual parties on Alumni Day and the big five year reunions at the Sheldon House in Pine Orchard, Conn. Also, Helier Rodriguez has pleaded for years that a meeting be scheduled to take place in his beautiful home town of Havana, Cuba. Hence, the beginnings of an extensive program which, at this writing, comprises these important items:

Alumni Day, 1957: The June 10 celebration is recorded later in this month's notes.

September 6 and 7: The Second Alumni Officers' Conference at M.I.T. is also recorded in these notes.

Winter 1958: A 1921 cocktail party is scheduled to precede the Midwinter Alumni Association meeting in Cambridge, the date for which is as yet indefinite.

February 22 through 25, 1958: *Hola, Habana — Viene Veintiuno*. Tentative dates for 1921 Midyear Class Reunion in Havana, Cuba.

June 16, 1958: Alumni Day on campus in Cambridge.

For those at great distances who may

require greater lead time to plan an itinerary, note the plans to make our 40th reunion the BIG one. It is now scheduled for June 8, 9, 10 and 11, 1961, at the Sheldon House in Pine Orchard, Conn. This reunion coincides with the 100th anniversary celebration of the founding of M.I.T., which will be observed with appropriate ceremonies at Cambridge, probably starting on Alumni Day, June 12, 1961. Put all these dates down on your calendar and make your plans to meet good friends and their families on these gala occasions. Watch The Review and your mail for continuing announcements, and please answer them promptly.

Through the courtesy of Class Prexy, Ray St. Laurent, and our New Jersey neighbor, Sumner Hayward, we have a full account of our participation in the Second Alumni Officers' Conference on campus in Cambridge last September 6 and 7. The 1921 delegation numbered 10, a goodly representation amongst the almost 300 who spent two wonderful days at the Institute. As a newly-elected member of the Executive Committee of the Alumni Association, Ray was a head table guest at the Saturday luncheon, which featured an address by Van Bush '16, Chairman of the M.I.T. Corporation. Jack Rule, popular Dean of Students, spoke during the symposium on "Educational Progress at M.I.T." With tongue in cheek, Sumner says he gave an excellent report on sex and morals, — but Sumner hastened to add a synopsis of a well rounded story on present day students, their attitudes and the heartening trend towards a complete campus community. Wally Adams of Middletown, Ohio, spoke at one of the work sessions on regional solicitation. The registration list gives the 1921 participants as Wally Adams, Mich Bawden, Josh Crosby, Sumner Hayward, George Owens, Helier Rodriguez, Jack Rule, Ray St. Laurent, Ted Steffian, and George Welch. In their Alumni activities, they represent the Class of 1921, various Alumni clubs, the Educational Council and the Amity Fund.

Ted Steffian, our energetic Assistant Secretary and chairman of the 1921 Reunion in Havana Committee, called a meeting of his group during the week end. Ray St. Laurent, Helier Rodriguez, and Chick Kurth met with Ted's committeemen, Chick Dubé and Roy Hersum. Registration details will shortly be in the mail to you, if they haven't already arrived, so see your travel agent soon or contact transportation lines and hotels for accommodations. During the summer, Helier has prepared a huge amount of information for the committee. He and Ted and the group deserve a well earned round of applause for their efforts for your enjoyment. Attend the reunion and tell them so. Write to Ted at the address at the end of this column if you have questions not covered by the mail announcements. See you in Cuba!

The 1921 gathering at last June's Alumni Day saw 55 members of the Class, wives, children and guests enjoying a full day of the finest entertainment anywhere, set amidst the magnetic surroundings of the tremendous Technology of today. An absorbing morning symposium, the outstanding luncheon with the usual

treat of a splendid report from the Institute's beloved President, Jim Killian '26, the dedication of the huge Karl Taylor Compton Memorial Laboratories, visits with Faculty friends, trips to the amazing Computation Center and the complex nuclear reactor, the cocktail party with classmates, the sumptuous banquet in the Rockwell Cage, and the wild ovation for Arthur Fiedler and the Boston Pops Orchestra, who played for the Alumni and guests in the new Kresge Auditorium. A day you'll long remember or one we're truly sorry you missed. Frank Kittredge was a member of the luncheon committee and is to be sincerely thanked along with all of the Institute and Alumni staff who contributed to the wonderful program, including the M.I.T. Meteorology Department, who have prescribed bright, sunny days for all but two of the last 19 years of this series of Alumni Days.

Among those present were Mrs. Fred M. Barsam; Mich Bawden; George Chutter and son, Roger; Cac Clarke and daughter, Eleanor; Bob Cook; Josh Crosby; Ed and Mrs. Delany; Chick Dubé, Harry and Mrs. Goodman; Bob and Mrs. Haskel; Don Hatheway; Roy Hersum; Mel and Mrs. Jenney; Algot Johnson; Mrs. S. Murray Jones and son, Malcolm, M.I.T.'57; Joe and Mrs. Kaufman; Chick Kurth; Ed and Mrs. MacDonald; John and Mrs. Mattson; Don Morse; Phil and Mrs. Nelles; George Owens; Herb and Mrs. Reinhard; Admiral Larry Richardson; Dean Jack Rule; Harry and Mrs. Rosenfield; Ray and Mrs. St. Laurent; Steve and Mrs. Seamos; Ted Steffian; Harold and Mrs. Stose; Bill and Mrs. Wald; Frank and Mrs. Whelan and daughter, Mrs. Ann Dennison; Dick and Mrs. Windisch and guest, Mrs. Paul Thoman; and Dave Woodbury. Missed and frequently inquired for were regulars Helier and Graciela Rodriguez, Saul and Rigi Silverstein. Chick Kurth was called to New York on business but he got back for dinner. It was a pleasant surprise to see Don Hatheway and Dave Woodbury, — the latter emceeing on TV again last summer in Boston.

Larry Buckner, Phil Coffin, and your Secretary had a miniature reunion on the occasion of the wedding in Montclair, N.J., on July 7, of Phil and Edna's daughter, Pat, to Arthur L. LeBrun. Pat, a graduate of Cedar Crest and former T.W.A. hostess, makes her home in Boston. Buck and Mary drove up from York, Pa., and spent much too short a time with us in Glen Ridge before returning. We acknowledge with thanks his fine contribution of a set of slides and photographs from the 35th reunion, to be added to the Bob Miller photographic record of the Class. Phil and Edna barely had time to greet their old Glen Ridge neighbors before returning to their home in Mt. Lebanon, Pa., on their way to Colorado Springs, where Phil's mother had just passed away. Sincere sympathy from all of us.

A welcome letter from Herb DeStaebler arrived just too late last spring to get into print earlier. Writing from Paget, Bermuda, on the stationery of Pomander Gate, he says, in part: "Spent last week-end in Cleveland as a guest of Mr. and Mrs. William Forrester Clements. Clem

is completely retired now. He had a heart attack about a year ago, from which he has recovered nicely, and now spends much of his time traveling, particularly to warm climates which help his mild asthma. It was good to see my old Engineering Summer Camp tentmate, Ilsley Bradley joined us at the University Club, where he lives. He has his own real estate business which doesn't interfere with his golf. Both he and Clem annoy me by looking young enough to be my children. Each has all his hair, — and none of it gray. It didn't work out for me to see Henri P. Junod, but I had a talk with him on the phone. Maybe *he* looks his age! I'll find out next time. Harry has a thirteen year old son." About himself and his family, Herb modestly reports nothing. Vice-president of purchasing and traffic, the Lambert Pharmacal Division of the Lambert Company, he has been living in Lititz, Pa. When last reported, son Herb, Jr., M.I.T.'50, was a research associate in physics at the Institute.

During the summer, Maxine and your Secretary had a most pleasant visit with Munnie and Alex Hawes at Sea Girt, N.J. Munnie is a partner in the real estate firm of Hawes and McAfee, Incorporated, Manasquan, N.J.; but, as Herb DeStaebler says of Ilsley Bradley, it doesn't interfere with his golf. There must be some connection between golf and Ponce de Leon's fountain of youth, for both Munnie and Alex look much too young to give credence to their respective M.I.T. and Mt. Ida class numerals. They had made an extensive tour of South America and the Caribbean and have put together one of the most interesting picture travelogues we have ever seen, consisting of alternating color movies and color slides which supplement each other, dependent upon whether motion is required or a still picture is adequate. Munnie deserves the top award of the Society of Motion Picture and Television Engineers not only for planning and carrying out this novel idea, but also for the cutting and arrangement of the material to permit smooth handling of a multi-projector job all by himself. We hope he repeats the procedure this coming February to provide a pictorial review of the 1921 trip to Cuba.

On the subject of foreign travel, the habit seems to be catching. The explanation for the absence of Saul and Rigi Silverstein from Alumni Day was his fifth overseas trip since 1952. He and Rigi left in mid-May and went through Italy, Switzerland, Germany, Holland, England, Belgium, and France before returning in the middle of July. Saul can have our reportorial job any time he asks for it, — witness 44 closely typewritten pages, covering every conceivable fact and impression of his travels. It's impossible to do justice to this scintillating scenic kaleidoscope, heightened by its many witty criticisms and comments regarding people, customs, attitudes and conditions. With apologies to Saul, we won't endeavor to condense or serialize, on the plea of inability to do it adequately, even if we used all the Review space for the next several years.

Ray and Helen St. Laurent left these shores early in May for a month's vacation tour of Norway, Denmark, Holland, England, Scotland and Wales, with stopovers

en route in Newfoundland and Nova Scotia. Ray says he now has a complete pictorial account of his travels, even though it's difficult to find space on ordinary slides for locations such as Bwlchgwynllanarmon, Penrhyndeudraeth and Blaenau-festiniog! Here again, an enthusiastic and informative printed account will have to be passed by on the same plea that any condensation would produce a mere itinerary and would lose the brilliant narrative thread which binds the changing visions. Since his return, Ray has been most active on Class affairs at Alumni Day, the Alumni Officers' Conference, counseling the Cuba Reunion Committee, and carrying on extensive correspondence with Class and other Institute contacts. He reports that George and Muriel Owens spent several days at the St. Laurent home in Maine during late summer. George met Ray at Rockland, whence they sailed for Vinalhaven in the Owens' 37-foot Colonial cruiser.

Latest in the European trip category are Helier and Graciela Rodríguez, who flew to Paris after the Alumni Officers' Conference. Helier wrote that they expected to tour the Loire Valley and then make an extended stay in England before returning in October. A pleasant letter from Don Severance '38, Secretary-Treasurer of the Alumni Association, advises that Helier has been renominated by the Association as a member of the M.I.T. Corporation Visiting Committee for the Department of Modern Languages, to give the department the benefit of advice and opinions of interested parties who are not directly connected with the Institute.

Robert L. Moore, Chairman of the Board of the Sheraton Corporation of America, has been nominated to the Visiting Committee for the Department of Economics and Social Science. Publications throughout the country are marking this year as the 20th anniversary of the \$300 million hotel empire assembled and operated by Bob and his long-time associate and classmate, Ernest Henderson. The chain now totals some 45 hostels, including the newly-built Penn-Sheraton in Philadelphia. Under construction is another Sheraton in Dallas.

H. Seymour Colton, formerly of Cleveland and now residing in Swarthmore, Pa., is president of the Maccos Chemical Company, whose principal product has been a new type of mastic adhesive. Recently acquired companies are the Gates Engineering Company, the Delaware Valley Steel Works, and the Wilmington Realty Company, all of Wilmington, Del. The Colton Chemical Company, which Seymour started some years ago, has been sold to the Air Reduction Company. W. Robert Barker reports his home address as RD #5, Lockport, N.Y. Gustav Fredrickson, development engineer of Superior Electric Company, says he now lives on Mt. Vernon Road, RFD #2, Bristol, Conn.

Samuel E. Lunden, member of the M.I.T. Educational Council and one of 1921's famous West Coast architects, has his office at 548 S. Spring Street, Los Angeles 13, Calif., under the firm name of Lunden, Hayward and O'Connor. Walter A. McKim, assistant to the president, Reliance Varnish Company, gives

his home address as Chadwick Road, Lyndon, Louisville 7, Ky. Charles L. Pool has returned from several years in Spain and Greece and is associated with Shorey and Tiffin, 60 State Street, Boston 9, Mass. New addresses have been received for the following and are available on request to your Secretary: John J. Collins, Merritt F. Farren, Austin N. Kirkpatrick, William B. McGorum, and C. Arthur Newton.

In accordance with established policy, the Alumni Association has removed from the files the names of the following who were associated with 1921 for less than four full years, who did not receive degrees and who have not been heard from for many years. If you know the address of any of them, please advise your Secretary: Lawrence E. Harmon, Jr., Course X; Sam Lee, VI; Feng C. Ling, XIII; Jay H. Quinn, II; Nicholas J. Rossi, V; Warren C. Waterman, Jr., VI; and Jeannette D. Weinstein, VII.

From the Junior League of the Class of 1921 comes the news of the wedding last June 2 of Ann Borden Clark, daughter of Mr. and Mrs. Edward P. Clark of Arlington, Mass., to Eugene F. Wolff of Harrison, N.J. Ann was graduated from Mt. Holyoke and her husband from Fordham. The Sumner Haywards' daughter, Priscilla Wieder, and her husband have moved to Oberlin, Ohio, following his receipt of the master's degree at the University of Rochester. Their son, Sumner, is with the American Telephone and Telegraph Company in Albany, N.Y. Betty continues her writing, not the least of which is the preparation of the entertaining notes in the *Simmons Review* for the Class of 1923, of which she is secretary. Anent Class Secretaries, our felicitations are extended to Harold B. Richmond, capable Secretary of the Class of 1914 and member of the M.I.T. Corporation, on his 38 years of outstanding service to the General Radio Company, from which he has just retired after completing 13 years as chairman of the board. A busy man with many activities and a devoted alumnus, he has found time to be of signal service to Technology.

It is our sad duty to report the loss of a classmate who will be sorely missed by his large number of friends in the Class. Joseph Arthur Mahoney died in New York City on May 10, 1957, after a long illness. For 30 years, he had been a member of the technical staff of the Bell Telephone Laboratories in New York. Born in Rockland, Mass., on July 22, 1900, he prepared for Technology at the Rockland High School and was graduated with us in Course X. At the Institute, he was a member of the Chemical Society and during World War I, he served as a private in the Students Army Training Corps. Prior to joining the Bell Laboratories, he taught chemistry at Boston College. In World War II, he served as a lieutenant colonel in the Signal Corps. He is survived by his wife, Mrs. Florence McGrath Mahoney; a brother, George, of Torrington, Conn.; four sisters, Dr. Margaret Adams of New York City, Mrs. John Connelly of Brooklyn, N.Y., Mrs. Fred Hammond of Temple, Texas, and Mrs. Herman Lioy of Rockland, Mass.; and several nieces and nephews. On behalf of

the entire Class, our sincere sympathy is extended to his family.

Hola, Habana — Viene Veintiuno, thanks to our daughter Eleanor's Simmons College Spanish! However one says it in English or Spanish, we hope you'll take advantage of this once-in-a-lifetime opportunity for enjoyment and relaxation with old friends in new surroundings. Act right now! Until we see you there, enjoy your Thanksgiving — and drop us a line to give others your news. — CAROLE A. CLARKE, Secretary, I.T. and T. Components Division, 100 Kingsland Road, Clifton, N.J. EDWIN T. STEFFIAN, Assistant Secretary and Chairman, Havana Reunion Committee, 11 Beacon Street, Boston 8, Mass.

1922

We've done it again. Had another tremendous reunion at Pine Orchard and elected new officers for the next five years. Parke D. Appel, President; Ev Vilett, Treasurer; Whit Ferguson and George Dandrow, Secretaries; and Fred Dillon as Class Agent. District Vice-presidents are: Yard Chittick for New England; Larry Davis, Middle Atlantic; Dale Spoor, Midwest; H. McCurdy, Pacific. The Class also voted a sum of \$100,000, to be raised during the next five years, as the "1922 Memorial Scholarship Fund." This will be over and above our high showing for the Alumni Fund which, for 1957, is above \$43,000. The specific plan will be revealed to you very soon.

Headlines and photos show Edward L. Norton of Summit, N. J., talking from his home to Australia having confirmed 280 messages and calls. His station, W2SHF, is known the world over and is making Ed outstanding in the DX field of amateur radio. His home-designed and built transmitter is used on 20 and 40 meters with an input up to 150 watts. "We're Wasting Our Engineers!" by William B. Elmer is a featured article in *American Mercury* for May 1957. He calls for "a truly constructive program of talk and action."

Crawford H. Greenewalt, as a trochilidigraphist and as president of a promising growing organization known as E. I. du Pont de Nemours and Company, has been given newspaper columns of admiration recently with pictures. We are all very proud of his progress. He moves as fast as the humming birds he photographs. Peter T. Lamont, IXB, is pictured with the Directors of the Standard Oil Company (New Jersey) as a petroleum engineer concerned with marketing problems and with their European and North African affiliates.

Among those attending Alumni Day at the Institute June 10 were: Al and Mrs. Abboud, Dave Abrahams, Parke and Mrs. Appel, Cecil Aronson, James and Mrs. Brittain, Yard and Mrs. Chittick, George and Mrs. Dandrow, Fred Dillon, Earl (Buck) Eacker, Warren and Mrs. Ferguson, Morris H. Gens, Dewey Godard, Clay Grover, Randall and Mrs. Hogan, Oscar Horovitz, Abbott Johnson, Joe and Mrs. Keenan, Fay and Mrs. Lincoln, Julian and Mrs. Lovejoy, Ted and Mrs. Miller, Ray and Mrs. Miskelly, Marjorie Pierce, Arturo and Mrs. Ponce-Canton,

Fearing Pratt, William and Mrs. Riley, Hyman and Mrs. Rosengard, Walter and Mrs. Saunders, Hugh Shirey, Wheeler and Mrs. Spalding, Dale Spoor, John Vaupel, Frank and Mrs. Wing, Frank Wood. The out-of-doors cocktail party with centers for class assembly worked out especially well. Our group was also able to visit with their neighboring classes in a most enjoyable atmosphere. Let's make next year's group bigger than ever.

A letter from L. F. Hickernell, Vice-president of the Anaconda Wire and Cable Company, tells us of photography of beavers in Michigan, explaining that women's beaver coats sell at high prices but are really worth much more to the beaver. His (Hickernell's) picture appears on page 816 in the September 1957 issue of *Electrical Engineering* telling of his new post of responsibility for directing the engineering as well as research and development for Anaconda. L. F. H. is also the newly elected treasurer of American Institute of Electrical Engineers. John J. Cychol has been named Chief Engineer of the 5th District, Illinois Division of Highways by the Governor of that state. John is from Gardner, Mass., is married to the former Stella S. Cealina, and has a son John, Jr., of Phoenix, Ariz. William T. Rich, Jr., has retired to Vero Beach, Florida. This looks like the start of many similar future announcements. We're getting to be that age. Samuel M. Seegal, Vice-president of William P. Filene's Sons Company and Director of American Cancer Society's Massachusetts Division has been named to the committee making a national study of joint action with United Fund Drives. This sounds like a great progressive step in community enterprise. Our efficient Assistant Secretary with his charming wife was pictured at the Press Box entertaining Mr. and Mrs. Gustavo Calleja '43 of Havana, Cuba, as an aftermath of the Alumni Reunion this summer. They all look younger than most people feel after such an event.

Captain Kenneth S. Davis of Beverly is pictured in the news as Commander of the Iceberg Patrol. His job is to warn shipping in the North Atlantic Shipping Lanes of the presence of icebergs by keeping a continuous check on the drifting formations. Captain Davis uses patrolships and planes from the vital base at Argentia, Newfoundland, for continuous survey and radio warnings until the bergs break up in warmer latitudes. The scientific phase of the patrol's duty consists of a study and application of oceanography in order to determine the strength of currents. The patrol's operations consist of maintaining vigilance and warning approaching ships of an iceberg's presence. Captain Davis' main headquarters is at Custom House in Boston. A big man about the world is our General William M. Hoge. The *Cleveland Plain Dealer* has demonstrated on three pages with pictures his triumphs at the Alcan Highway, his buildup in operation at Omaha and Utah Beaches, and his important part at St. Vith in the Battle of the Bulge. This story also tells of his decision to cross the bridge at Remagen, a crossing which broke Hitler's last defense line. He later led two major offensives in Korea as

Commander of the 9th Corps, returning to the United States as a lieutenant general. After his command of the 4th Army at Ft. Sam Houston in Texas, he was shifted to the United States 7th Army in Germany and a few months later received his 4th star as he took command of all United States Army Forces in Europe. General Hoge retired February 1, 1955, at the Forest Hill area of East Cleveland and is now chairman of the board of the Interlake Iron Corporation.

We extend the sympathy of our class to the families of two members. Robert H. Haire died in Newport Hospital. He had been in the interior decorating business in Newport, R.I., for many years. James V. Zurlo of Belleville, N.J., died in the Newark Hospital in July. He was a development engineer for Walter A. Kidde and Company.

The 35th Reunion of the famous Class of '22 has been reported by Yard Chittick in his usual debonair fashion. He tells of the arrival at the Sheldon House on the Bay in Pine Orchard, Conn., of about 50 classmates by dinner time on Thursday June 6. The bar opened early and assignments of responsibilities for the next two days were immediately made. Oscar Horovitz showed some very special movies which he took at the 1939 World's Fair in New York. Oscar has won many "oscars" in national and international events recognizing his ability in color photography. On Friday Larry Davis and Buzz Burroughs ran the golf tournament and Don Carpenter took charge of the tennis enthusiasts. Elsewhere horseshoe pitching and bridge tournaments were also underway. Over 100 members of the class arrived Friday evening to partake of a delightful dinner and participate in George Dandrow's Virginia City Gambling Night. Each member was given \$20.00 worth of stage money consisting of special aluminum disks stamped out by Bob Tonon, President of Peter Grey Corporation. After two hours playing at roulette, dice and birdcage, most of the gamblers were broke and prizes were awarded to outstanding gentlemen with silk vests and spats. The remaining entertainment was conversation at the bar. On Saturday the tournaments were completed and boat rides were enjoyed through the neighboring islands. The big banquet of Saturday evening was a special feature with fine food, the distribution of many prizes, and the election of officers reported above. In reviewing features of the Reunion, each member received a fine quality red shirt and gray tie worn as a Reunion costume. Each also received a cigarette lighter bearing the Institute seal and Class numerals. A special class photograph was taken late Saturday afternoon and a large number of color pictures were taken and have been donated to Parke Appel for our permanent class record.

Your new Secretary, in bringing this report up to date, can also tell of visiting with many members of the class at the Second Alumni Officers' Conference at the Institute September 6 and 7. It is a pleasure and an honor to see our class so well represented at the many activities of the Institute. Those attending included our President, Parke Appel, George B.

Bailey, Robert H. Brown, C. Yardley Chittick, Frederick N. Dillon, Jr., Whitworth Ferguson, Edwin A. Gruppe, Harold L. Humes, Andrew S. La Penta, Willard B. Purinton, Preston Robinson, Lawrence W. Trowbridge. These men were included in the assemblage of class or group officers, members of the Educational Council or representatives of the Alumni Fund. Our class can be very proud of its top position representing M.I.T. in all parts of the country and in all of these many endeavors. — WHITWORTH FERGUSON, *Secretary*, 333 Ellicott Street, Buffalo 3, New York. C. GEORGE DANDROW, *Assistant Secretary*, Johns-Manville Sales Corporation, 22 East 40th Street, New York 16, N.Y.

1923

The Class was very busy this summer as you will see by the length of these notes. First, East Bay Lodge at Osterville informed us it would not be open in time to meet our Reunion date of June 13-15, 1958. Speedball Penn Howland and the Squire of Barnstable County, Ray Bond, got busy immediately and signed up The Pines at Cotuit on Cape Cod. The brochure indicates a delightful place — so start saving your shekels — we will be expecting you.

Reunion Chairman Penn Howland has put together a splendid Reunion Committee, the first full meeting of which was scheduled for September 21 at Boston. President Jack and your scribe expect to attend. Treasurer Lem Tremaine will be otherwise engaged that day. Under the circumstances, we have excused him. Developments will be reported to you either in a separate letter or in these notes.

The Class was well represented at Alumni Day, June 10, with the following being present at one or more of the activities during the day and evening: Mr. and Mrs. Benjamin Albert, Mr. and Mrs. Edward S. Averell, Mr. and Mrs. Horatio L. Bond, Mr. John E. Burchard, Mr. Harry M. Chatto and guests, Mr. and Mrs. Hugh S. Ferguson, Mr. and Mrs. Joseph Fleischer, Mr. E. Louis Greenblatt, Mr. and Mrs. Franklin K. Haven, Mr. and Mrs. Herbert L. Hayden, Mr. and Mrs. Edwin Hobbs, Mr. George A. Johnson, Mr. and Mrs. Egon E. Kattwinkel, Mr. and Mrs. David Kaufman, Mr. and Mrs. Elliot P. Knight, Mr. and Mrs. Howard A. Lockhart, Mr. and Mrs. Paul R. Plant, Mr. Bernard E. Proctor, Mr. and Mrs. Howard F. Russell, Mr. and Mrs. David W. Skinner, Mr. and Mrs. Julius A. Stratton, Mr. Lawrence J. Tracy, Mr. and Mrs. A. M. Valentine, Miss Dorothy W. Weeks, and Mr. J. H. Zimmerman. Julius Stratton, VI, Chancellor of the Institute, did an excellent job as chairman of the symposium "Today's Science — Tomorrow's Promise." David W. Skinner, XIV, was Deputy Chairman of the Alumni Day Committee and E. E. Kattwinkel, XV, was chairman of the Banquet and Entertainment Committee. The weather was perfect; the symposium was informative; the dedication of the Karl Taylor Compton Laboratories was impressive; the banquet was delicious and the Pops Concert was out of this world. We were sorry for those who could not

attend—we wish you could have been with us. Among those renominated by the Alumni Association for the position of Alumni Member on the M.I.T. Corporation Visiting Committee are Egon E. Kattwinkel for the Medical Department and Alfred E. Perlman, XV, for the Department of Civil and Sanitary Engineering. Al got quite a lot of publicity last spring at the dedication of the New York Central's Research Laboratory at Cleveland. He expects research and science to step up the prestige and efficiency of the railroads, particularly the Central.

John E. Burchard, IV, Dean of the School of Humanities and Social Studies, reports: "Marjorie and I went to Europe this summer because I was one of eight members of an American group who were asked to come to France to discuss with a corresponding number of French educators the leading problems of current higher education. The Norwegians then invited us to come on to Oslo for the same purpose. Both these meetings were very interesting and pleasant and at the end of the Oslo meetings we toured the fjords briefly, and then went over to Helsinki and spent four delightful days with Alvar Aalto seeing a good deal of Finland and, of course, all the important parts of Finnish architecture and indulging in perfectly marvelous *saunas*." (We wrote John regarding an explanation of "saunas" but he didn't send us a sample.)

Harland C. Forbes, II, has been elected Chairman of the Board and Chief Executive Officer of the Consolidated Edison Company of New York. He had been president of the Company since 1955. With a B.S. degree from the University of New Hampshire in 1921 and an M.S. degree from the Institute in 1923, he joined the New York Edison Company immediately after graduation and progressively rose to the higher positions, becoming Vice-president of Consolidated Edison in 1945 and Executive Vice-president in 1949. Congratulations!

Robert C. Sprague, XIII, chairman and treasurer of the Electric Company at North Adams, Mass., bearing his name, outlined a three-way program for increasing production in the electronics industry at the Annual Conference of the Radio-Electronics-Television Manufacturers of Canada. While he spoke principally upon automation, he included comment about the economic situation in the United States and Canada. He exuded optimism and confidence.

Last May, Louis H. Skidmore, IV, was honored by the American Institute of Architects, the citation reading: "Pioneering new paths in a profession depending hitherto largely upon individual service, you have built an organization . . . in which you have united in singleness of purpose the manifold skills, imagination and judgment fitted to serve, with marked distinction, a wider and more diverse clientele than had been thought possible. In giving architectural service to the needs of an era of vast building activity, you and your collaborators have won for the profession a wider understanding and appreciation."

In June, Robert Hill Kean, X, was the recipient of the Distinguished Service Award, presented by the Virginia Sec-

tion of the American Chemical Society. The citation said in part: "He exemplifies all that is outstanding and that which each of us might wish to emulate in science. As a 'scholar' and a Virginia gentleman, he loves his fellowmen."

Horatio Bond has compiled and edited for the National Fire Protection Association, a book entitled *Research on Fire* which reports on the facilities, personnel and management of 54 fire research centers sponsored by various private, institutional, industrial and governmental interests. Beautifully illustrated, it consists of 192 pages. If Ray missed anything, your Scribe has been unable to find it.

"New Products—Survival Insurance for Small Business" was the topic Miles Pennybacker, VI, presented at the New England Council's 127th Quarterly Meeting, Industrial Research Session, at Rockland, Maine, June 13, 1957. Miles is President of Voltarc Tubes, Incorporated, Norwalk, Conn. Among other advantages, he points out that the small concern with its closely knit organization often has a better chance of utilizing the imagination of its staff than some bigger corporations. Nice work, Miles, we are all for you.

Herb Hayden, II, writes that he and Kay had a marvelous trip last summer through the Inland Waterways to Skagway, Alaska. The scenery was beautiful. On the way back, they visited Hugh Nickle, II, at Seattle, where they renewed the friendships started many years ago on hockey teams at the Institute. Hugh represents Combustion Engineering Company in the Northwest.

Blanche W. Entwistle sent us a nice letter, giving a resumé of the activities of her husband, Frederick T., X, whose passing was reported in the July notes. After joining Du Pont in 1928, he served in various capacities at plants in Waynesboro, Va., in Argentina, and in Wilmington, Del. While in Argentina, he became an authority on the ruins and ancient cities of the Incas in Peru. Blanche, the Class sends you its deepest sympathy in your great loss.

Luis de Luzuriaga, I, presently in New York City, would like to make a new connection where his ability to write, speak and translate Spanish, Portuguese, French, Italian, German, and some Oriental languages can be used to advantage. He is experienced in the export and import fields and particularly in the oil industry. Has anyone ideas that would be of assistance to him?

REMEMBER OUR 35TH REUNION WILL BE HELD AT THE PINES, COTUIT, MASS., JUNE 13-15, 1958. Start saving your kopecks now! Our thanks go to the 70-odd members who sent in their Class dues of \$10.00 each. How about a few others loosening up so as to make the affair a bang-up success!—HOWARD F. RUSSELL, *Secretary*, Improved Risk Mutuals, 15 N. Broadway, White Plains, N.Y., WENTWORTH T. HOWLAND, *Assistant Secretary*, 1771 Washington Street, Auburndale 66, Mass.

1925

The Class of 1925 has had two gatherings since the last report of activities. On May 16, 1957, 18 classmates and

wives gathered at the Smith House in Cambridge for dinner and an evening of sociability. In attendance at that time were Mr. and Mrs. Fred Greer, Mr. and Mrs. Ed Kussmaul, Mr. and Mrs. Mac Levine, Professor and Mrs. Sam Caldwell, Mr. and Mrs. Frank Turnbull, Mr. and Mrs. Bob Hodson, Doc and Mrs. Foster, Dave Goldman, Bill Arnold, Henry McKenna, and Greg Gregory. There was a considerable discussion about the 35th Reunion which, although three years away, will be on us before we realize it. You will be receiving a communication from the Secretary within the next few weeks, asking for your opinion regarding the 35th. After a business meeting, the group was entertained with a colored film concerned with the restoration of the Saugus Iron Works at Saugus, Mass.—a most interesting and instructive picture.

On Alumni Day, June 10, a number of 1925 men were on hand. Those present at the various functions included Professor and Mrs. Sam Caldwell, Fred Duncan, Francis Foss, Dave and Mrs. Goldman and daughter, Bob and Mrs. Hodson, Henry and Mrs. McKenna, Ed Kussmaul, James Howard, Ed McLaughlin, Henry Bacon, and Doc and Mrs. Foster.

The Class of 1925 was represented at the Second Class Officers Conference held by the Alumni Association at the Institute on September 6 and 7, 1957. President Fred Greer, Garvin (Chink) Drew, and Ave Stanton were on hand. All of you will be interested to know that in July, 1957, Ave became associated with Post Products, Incorporated, in Auburndale, Massachusetts as Treasurer and Vice-President of the Company. Your Secretary should have been at the Alumni Officers Conference; however, he was attending the 11th National Conference on Administration of Research being held at the Sheraton Park Hotel in Washington, D. C. Also at the conference on Research Administration were John M. Campbell, X, from the Research Division of General Motors, and Tom Killian, VI-A, from the Office of Naval Research. Tom Killian was elected to the Advisory Committee of the Conference as a Member-at-Large.

A card from John E. Black, XV, notes that John is now assistant manufacturing manager of the Data Flo Division of the Underwood Corporation, with Headquarters in Hartford, Conn. Up to the time of his change, he was Chief Engineer of the Bristol, Va., Plant of the Munroe Calculating Machine Company.

Two other moves are noted in the change of address information. Charles W. Allen, XV, has returned to Concord, Massachusetts from Lake Worth, Fla.; and Ed Murphy, X, who has been in the Boston area for a number of years, is now making his home in Mamaroneck, New York.

It is with sorrow that we note the recent passing of several members of the Class. Miss Chloe M. Jackson of Muncie, Indiana died on April 21, 1957. Lieutenant Lawrence A. Maaske, U.S. Navy Retired, died on June 4, 1957 at the U. S. Naval Hospital in St. Albans, N.Y., and was buried in the Arlington Cemetery. Lieutenant Maaske retired from the Navy in 1930 and during World War II was

construction consultant with the Electric Boat Company at Groton, Conn.

Captain John E. Ostrander, Jr., USN (Ret.) and former White House aide died on June 28, 1957. Captain Ostrander had entered the Service in 1917 and retired from the Bureau of Aeronautics in 1950. He was a native of Idaho and graduated from the Naval Academy before attending M.I.T. He served with the Atlantic Fleet and U. S. Naval Forces in Europe until 1921 and then qualified as a Naval Aviator at Pensacola, Fla. He was commander of a Fighter Squadron in 1927-28; served as a White House aide on two occasions, 1928-31 and 1933-36. For several years following his retirement from the Navy, he served as a consultant with the Pratt and Whitney Aircraft Division of United Aircraft Corporation. — F. L. FOSTER, *Secretary*, Room 5-105, M.I.T.

1926

The whirlwind of summer activities is just rocketing off into space as new fall activities are spliced on so smoothly that there is hardly a ripple. These notes, as usual, are written on a Sunday morning. Friday, and in the morning on Saturday, we attended the Second Alumni Officers' Conference at the Institute. Saturday noon we pointed the Volkswagen toward Eastern Point, Gloucester where Duffy (Austin Kelly's one-time skipper) was bringing the *Flying Cloud* for the last regatta and race of the season. We won the race for the Stars and also the handicap race, sailed back to Rockport — hauled the boat, took out the mast and trailed her home for the winter. Now just a few hours later we are at the notes.

Let's hear a word about the Alumni Officers' Conference, which seemed to us to be even more successful than the first one in 1955. You will see complete reports on the conference in the Review, so we will only attempt to give impressions and personal reports. Our class had very good representation in addition to your Secretary. Class representatives on the Educational Council were Lou Darmstadt, Ray Freeman, Jim Offutt, and Dave Sutter. Regional representatives of the Alumni Fund present were Eliot Bidwell, Eben Haskell, and Lou Darmstadt again. The class of '26, never to be outdone, of course had two of its leading lights on the program — Jim Killian reported on the steps being taken by the Institute to meet the challenge of the future and Stark Draper discussed Inertial Guidance in a manner that even I could understand, with the aid of a simple six-foot model plane containing gyroscopes. The greatest inspiration of the Conference was the forward thinking expressed by Jim and his associates and the approach to current problems. It is always interesting to see the final solution to a problem, but to be let in on the approaches to problems that most of us do not even know to exist is really inspiring. I am just guessing, but I presume most of the subjects discussed at this Conference will be discussed in future issues of The Review, and I recommend that you read all of them — Jim's in particular. If you want to read an exciting story about

classmate Stark Draper's work, dig out the September *Reader's Digest* and there you have it with a nice woodcut of Draper looking exactly as his did in 1926. It is beginning to look as though this first issue of the Notes may turn out to be even more narrative than usual, but if we leave a lot of good news items in the reservoir we will at least have a feeling of security when we receive the next "Class Notes Due" postcard from The Review editors. Another item that you will find in the front of The Review is the sad one about Miss Olive Barnard's death. All classmates who took Course XV will certainly miss being called by their first name when visiting the Institute as Miss Barnard always called them, even though she had not seen them for 30 years. It was your Secretary's good fortune to have ridden with her in the subway in mid-August and to have had the opportunity of extending our Class's congratulations for her honorary election to membership in the Alumni Association last June.

Now to get back to Pigeon Cove and Rockport. A couple of weeks ago I dropped in at the yacht club for a moment and was told that a very nice looking gentleman was in the club looking for me. It turned out to be none other than Bill Lowell who was on a short cruise with his wife. They recently returned from a European trip during which they made a week's side trip to Moscow. Bill is going to give us a full report in an early issue — it sounds like quite an adventure. We have woven Rockport and Pigeon Cove into the Class Notes so often that I seldom meet a classmate who doesn't ask how things are in Pigeon Cove. A relatively few have dropped by even though the latch string is always out. Now all of you are going to have an opportunity to take a peek at the neighborhood. The ZIV television people have been in Rockport since early June with a crew of about 50 and expect to stay through November. They are filming a weekly series for R. J. Reynolds Tobacco Company around a story called the "Harbormaster." About everything in town has been used as background for the pictures, and the Harbormaster's boat Blue Chip was skippered by my friend Duffy most of the summer. He would run it up toward the cameras and at the last minute the leading actor, a fellow by the name of Barry Sullivan, would take the wheel as Duffy fell to the floor out of sight. In distant shots Duffy wears Sullivan's jaunty cap and brass-buttoned jacket. The Yacht Club has been used a few times as the Harbormaster's office and the local Coast Guardsmen are in most of the scenes. If you see a num buoy with 2 painted on it, it will be directly in front of our house. Duffy told me he looked up and saw Ruth sitting on our sea wall watching all one afternoon when this was the location. We presume that the series will be shown weekly on the Camel Cigarette Program and haven't the vaguest idea about the story, but the background is 100% Rockport and Pigeon Cove and the sea thereabouts.

Now I have a little message that I

would like to send to the class — especially those I meet from time to time and whom I will now quote: "I enjoy reading the '26 notes and I am going to send you something for your notes real soon." My message is "Send it along — it will be welcome!" Cheers until the December issue and a Happy Thanksgiving. — GEORGE WARREN SMITH, *General Secretary*, E. I. du Pont de Nemours and Company., Elastomers Department, 140 Federal Street, Boston 10, Mass.

1927

The Notes this month will consist of Joe Melhado's recording of the events of our 30th Reunion:—

Three decades passed! (The years go fast!) Now we have come, the '27 men, to meet once more on Cape Cod's shore and bind the bonds of fellowship again.

Thomas Carlyle quotes an old French proverb that says, 'Happy is the nation that has no history.' Your historian thought that this would also apply to college classes, and he wanted to make his classmates happy. But Jim Lyles and Bob Bonnar insisted that the reunion must be chronicled, and Joe Harris works hard enough on the class chronicles between reunions. So . . .

A respectable total of 62 of the men of '27 gathered at the Oyster Harbors Club on the weekend of June 7-9, 1957. It wasn't the biggest reunion we've had — we did quite a bit better five and ten years ago — but it was a larger crowd than at the 5th or 15th, and only one short of the number at the 10th.

Bob Bonnar, Reunion Chairman, and his committee had done their work well, and things moved very smoothly; Joe Harris had gathered the questionnaires and pictures we mailed in into two binders, which were passed constantly from hand to hand throughout the reunion as we all tried to catch up on the activities of our classmates in the past five years. Not everyone had returned his questionnaire, but Joe still has room in his books for any belated ones (or reasonable facsimiles) that are sent in to fill the record.

Pete Peterson and Bob Wallace were the first arrivals on Friday, and a number of others arrived in time to get in some golf before dinner. By late afternoon on Friday, there were enough of us gathered together and reminiscing to make the past 30 years slip away — for the moment. But we were in for a rude shock when some of the members of the M.I.T. Class of '07 — also at Oyster Harbors Club for their 50th reunion — began to totter up the steps and mistakenly greet us as classmates. We would have put it down to their aging eyes and their illusions as to their own youthfulness, except that the hostess in the dining room asked, as we entered for dinner, whether to seat us on the '27 or '07 side of the room.

Things picked up after dinner, when we gathered downstairs to clink glasses, welcome the later arrivals, and renew old friendships. Wes Meytrott began to coax tunes, old and new, out of the piano and to lead the singing, with the

help of Maurice Davier's resounding bass and Glenn Jackson's confident tenor, and we kept it up until the wee hours.

The daylight hours on Saturday were given over to sports. Dike Arnold had set up a full program, but except for a small deep-sea fishing party, golf was the only popular athletic activity. Not even Luke Bannon suggested a baseball game this time. Maurice Davier had rackets and balls available but couldn't find enough tennis players to get a tournament going; even Iron Man McCassey stuck to golf. Alf Berle had to wait until Sunday to get a group of four people together for horseshoes. Other games also seemed to have diminished interest for us: When one of the members of the fishing party stopped on the pier to admire two delicious bits of fluff in shorts and halters, another commented, "The taller one looks a lot like my daughter."

Just before the cocktail party Saturday evening, Don Spitzli, official custodian of pictures, showed the class collection of movies and slides of previous reunions. The Mayflower at Plymouth (1932); Castle Inn at Saybrook (1937 — still at lot of horseplay showing in the movies); the Griswold at New London (that was 1942, and among the few who could make it the pictures show quite a scattering of military uniforms); East Bay Lodge at Osterville (1947); and the big 25th at Oyster Harbors Club — Don has preserved all of them on film for us and for posterity (if posterity cares).

The cocktail hour was a pleasant preparation for the high spot of the reunion — the banquet — with the gathering on the lawn for the official reunion picture marking the transition from liquid to solid nourishment. (It's a good picture, but we miss the "key" that the photographer for the 25th reunion provided.)

Speechmaking was banned, but Chairman Bonnar did manage to get a few words from some of the boys. Bud Fisher, on leave from his duties in London and soon to survey his new responsibilities in and around Baghdad, told us briefly of the experiences of an American in London during the Suez crisis. Ralph Johnson, who had sent some leis from Honolulu for the 25th reunion, apologized for not bringing any with him for the 30th, but he did guarantee to provide any classmate who visited him in Hawaii with all the leis he wanted in his choice of color.

As Jim Lyles rose to speak, all the upper lips at his table suddenly sprouted moustaches to rival his, but none could duplicate the delicate shading of taupe which Jim's boasts. Alf Berle and Dike Arnold gave us some interesting figures on contributions of our class to the Alumni Fund, which to date have totalled over \$220,000. There are a total of 873 names on the Class of 1927 list, including 605 active names (about a hundred have been taken from us in these thirty years, and about 170 are "lost"). Of these, only 212 — about one in three — have been regular contributors.

After the citations and awarding of prizes — of which more later — Bob Bonnar introduced L. W. (Randy) Randolph, who is associated with our classmate Harold Edgerton, Germeshausen and Grier. Randy told us how this firm had been formed by these three members of the M.I.T. faculty who had worked on the Manhattan Project and how they produce and operate all the controls and photographic equipment for setting off and recording nuclear detonations; and he showed us two rather startling films of A-bomb and H-bomb explosions and their effects.

Citations and prizes awarded at the banquet included the following: For best photography of the 25th reunion, Art Connell; for coming the longest distance to the reunion, Ralph Johnson; for being the first reunion representative from the state of Oregon, Bob de Lucia; for his outstanding work over the years as Class Agent, Alf Berle; for a superb job of organizing activities and business arrangements, Chairman Bob Bonnar and Treasurer Glenn Jackson of the Reunion Committee; for having birthdays on the day of the banquet, Bob Wallace and Frank Staples; for having the most grandchildren (six), Frank Marcucella; for having sons graduated from M.I.T. this year, Bob Bonnar and Russ Westerhoff; for waiting hopefully but unsuccessfully for horseshoe contenders, Alf Berle (Alf lost the prize to Jim Henry Sunday Morning); for being willing to enter the tennis tournament that never did get started, Joe Burley and Johnny Drisko; for their fishing prowess, Rosy Rosenthal, Harry Inskeep, and Joe Melhado; for low gross golf score (81), Peter (L.B.) Peterson; for second and third lowest gross, Ralph Johnson and Bob Bonnar, respectively; for the longest golf drive, Dick Cheney; for various other achievements on the golf course (best not described more exactly), Jim Lyles, Glenn Jackson, Bud Fisher, Frank Staples, Luke Bannon, Ray Hibbert, Russ McCassey, Bill Taggart, Bob Wallace, Ray Buckley and Frank Marcucella.

If there had been a prize for the tallest story, Bob Bonnar would have won it easily with his physiological gem. And no one got around to giving a prize to Hibbert, Buckley and Taggart for their performance on the Bongo drums or to Wes Meytrott for his piano virtuosity.

Sunday we said our au revoirs, some heading up to Cambridge for Alumni Day and others off in various directions. By almost unanimous vote, it was decided that the next reunion, in 1962, would also be at Oyster Harbors Club, where they fed us well, bedded us down in comfort, and provided a perfect setting for reunion activities.

Those present at the 30th reunion were: A. Anderson, D. C. Arnold, L. E. Bannon, A. K. Berle, A. N. Billings, J. R. Bonnar, J. R. Buckley, J. C. Burley, E. Chase, R. L. Cheney, E. A. Church, L. H. Coffin, A. J. Connell, M. Davier, C. G. Davies, E. R. de Luccia, J. B. Drisko, E. T. Dunn, J. J. Dunn, J. D. Eldert, H. W. Fisher, H. E. Franks, L. B. Grew, J. S. Harris, R. E. Harrison,

J. T. Henry, R. F. Hibbert, H. V. Inskeep, G. D. Jackson, G. C. Jacoby, R. B. Johnson, E. A. Leach, J. A. Lyles, R. E. McCassey, G. I. McNeil, F. Marcucella, F. Massa, J. H. Melhado, D. C. Metzger, C. W. Meytrott, H. A. Moineau, R. E. Paine, Jr., C. H. Peterson, L. B. Peterson, D. A. Rosenthal, E. Sanel, B. E. Sherrill, B. Silveston, A. C. Smith, D. H. Spitzli, F. C. Staples, E. F. Stevens, D. E. Sullivan, W. T. Taggart, G. R. Taminosian, R. C. Wallace, E. W. Ward, R. P. Westerhoff, F. W. Willcutt, R. Wise, L. B. Woolfenden, and G. B. Yudkin. (According to the records, this list is complete, but if anyone has been left out please help us correct the record.)

Charles H. Daisy, postal official, collapsed at his home on May 17 and died en route to Quincy City Hospital. Isaac G. Swope, research electrical engineer with M.I.T.'s Lincoln Laboratory, died suddenly on June 4. Edward G. Cowen, Colonel, an Army veteran of World Wars I and II, died of a heart ailment on August 3 at his home in Dade City, Florida. Kenneth E. Smith collapsed as he was talking to a service station attendant in Tennessee on June 6. A rescue squad failed to revive him. — JOSEPH S. HARRIS, *Secretary*, Shell Oil Company, 50 W. 50th Street, New York 20, N. Y.

1928

On Saturday, August 10, the following delegation drove to the Marshall House, site of our approaching 30th Reunion: Bill Carlisle, Florence and Ralph Jope with son Teddy, and Katherine and Walt Smith. Purpose of the visit was to review with the house management facilities available for your comfort and enjoyment next June. Although it was a cloudy day, all were impressed anew by the beauty of the location, grace and spaciousness of the house and rooms, and the unusual provisions for very form of recreation. If the dinner served in the main dining room on that occasion was any sample, we are to have a weekend of excellent meals. Conclusion of the group: "This is the perfect meeting place — it couldn't be any better!"

We regret to report the death of T. Carlton Kane, Course, II, on June 26, 1957. Address: 4125 Oak Knoll Drive, Youngstown, Ohio. — GEORGE I. CHATFIELD, *Secretary*, 49 Eton Road, Larchmont, N. Y. WALTER J. SMITH, *Assistant Secretary*, 15 Acorn Park, Cambridge, Massachusetts.

1930

Our Assistant Secretary, Louise Hall, has been awarded a research grant and will be on sabbatical leave from Duke University for the academic year 1957-58. Her grant is titled: "The Founders Fellowship of American Association of University Women" and she'll be doing the work in this country and in England, beginning 1 July 1957. Congratulations, Louise, and best of luck to you in your research efforts. Louise informed us about M.I.T. hitting the jackpot on

awards conferred at the Centennial Celebration of the American Institute of Architects which was held in Washington, D.C., during the week of May 13, 1957. Members of the class of 1930 receiving honors, together with the honors received, are as follows: COLLEGE OF FELLOWS: for design and service to the Institute, Fred L. Markham; for design, Joseph D. Murphy and Benjamin L. Smith. FIRST HONOR AWARDS: Office Building for Middlesex Mutual Building Trust, Waltham, Mass., Lawrence B. Anderson of the firm of Anderson, Beckwith and Haible.

Sig Linderoth is still a regular reader of *The Review* and says he is sorry to admit that he has not contributed as much information for it as he should. He is still hard at work teaching in the field of machine design at Iowa State College and carrying on a pretty active consulting practice, too. He is working on such varied projects as radar navigation, heavy machine tools, and control equipment for the oxygen convertors in planes. He has also been quite active in the application of digital computers in the design field for stress analysis and basic design. Sig's daughter, Janet, entered Middlebury College, Vt., this fall.

Horace Myers and his wife are living in Honolulu. He is Lighting Engineer for American Factors, Limited, and has been there since 1951. He received a phone call from Professor Schell recently when he passed through Honolulu. Horace hopes to make our 30th reunion and we sure hope to see him at that time.

Our other secretary, Ralph Peters, wrote me a letter in May, the choicest item being that on March 1, 1957, his son, Ralph Jr., and Ralph's wife, the former Jane Esty of Norwood, Mass., presented him with a granddaughter. Ralph, Jr., was Amherst, Class of '54. Some of our classmates will perhaps remember meeting him and his fiancée at our 25th reunion while he was a graduate student here at M.I.T. Ralph goes on to tell us that Gil Cox was married to Dora Meng during the past winter, and he also mentioned Dick Wilson's trip to Austria. (Dick himself wrote me about this and I have mentioned it in another part of these notes.) Ralph had his annual visit with Howard Gardner and Tony Savina in February 1957 while attending the usual M.I.T. luncheon during Paper Week. He received the Class of '30 News Bulletin and reports that the plans for the 30th reunion look very good.

A newsclip from *Interiors*, New York, N.Y. about our classmate, Zareh Sourian, was passed on to me by the Class Notes Editor. The article itself is entitled "Interiors Contract Series '57, Restaurants and Bars." In this article it was pointed out that Zareh's opportunity to design a two-story building in Manhattan to house a single enterprise was a rare one. The Seafare Restaurant in Greenwich Village is a totally new structure, from its basement to its second floor of offices devoted exclusively to the ordering, preparing, and dishing-out of food and drink, with the emphasis on fish dinners. Architect Sour-

ian is responsible for both the exterior and interiors, which he treated in an aptly aquatic fashion.

Fred Turnbull has been in his own practice of patent laws for the last few years and his business address is 1317 F Street N.W., Washington, D.C. He is at present mayor of the town of Somerset in Maryland which is close to the District of Columbia. Incorporated in 1906, this town at the moment has about 350 homes and is entirely residential and, Fred says, it intends to remain so. He and Mrs. Turnbull try to get up to New England whenever they can but it seems that they manage to be so busy most of the time that they can't get away.

Bill Wheildon, Jr. has a new home in Framingham, Mass. The Toll Road eliminated his old home and one half of his 40-acre property. He is employed at the Norton Company in Worcester, Mass., as a senior research engineer, specializing in high temperature refractories for rockets and guided missiles and ceramic tooling. Last spring he visited the missile industry in California. He has two children, Andrea Jean who is five years old and William M., III, who is two and one half years old. He keeps in contact with Bill Wye at the Patent Office in Washington, D.C., and recently ran into Jimmy George at an Air Force Conference held at the University of Florida.

Dick Wilson and his wife were among a plane load of skiers who flew directly from Rochester, N.Y. to Austria last winter. Their three-week ski holiday in Austria and Switzerland from February 15 to March 8 was a very enjoyable one. On the way home they spent a day in Paris at Kodak's factory. Dick says they're saving Florida for when they retire.

The following changes of address have been reported to me: George T. Brady, 2804 Stratford Drive, Austin, Texas; Robert A. Canning, Edmore, Mich.; William C. Dickerman, Jr., 6 Pinecroft Road, Greenwich, Conn.; Richard C. Huggard, 1395 Whyte Avenue, Winnipeg 3, Manitoba, Canada; Morrell Marean, 12 Hathaway Road, Marblehead, Mass.; James A. Merrill, The Goodyear Tire and Rubber Company, Research Division, Akron, 16, Ohio; William H. Waite, Hedgerow Place, R.D. 1, Wilmington, Delaware. — GEORGE P. WADSWORTH, *Secretary*, Room 2-285, Department of Mathematics, M.I.T., Cambridge 39, Massachusetts. RALPH PETERS, *Assistant Secretary*, 249 Hollywood Avenue, Rochester 18, N.Y.

1931

Because of your cooperation by writing and sending newspaper clippings about our classmates, 1931 is well represented in this month's Notes. Thank you and keep up the good work.

On August 20th, Dick Baltzer wrote: "Quite a bit seems to have happened to members of 1931 lately, so that I thought a line to you would be in order. I am inclosing the article that I happened to notice written by Charlie Broder, a classmate. Charlie was on the

track team with me and we got to know each other well, but I have not heard a word since graduation until this article.

"Sydney Miller, who achieved a doubtful fame by leaving the bus in Stoughton at our 25th Reunion, was made a director of Avon Sole Company about a month later.

"Bert MacLeod, Captain of the crew our senior year, who has been with Brown Shoe Company, Gro-Cord Rubber Company, and Durkee-Atwood Rubber Company, is now working again for the Avon Sole Company, as a sales development specialist—particularly in the work shoe sole field, centered around Minnesota, Wisconsin and Michigan. Bert is living in Red Wing, Minn. on Lake Pepin. The wife and I visited Dottie and Bert last summer and enjoyed their hospitality, plus some wonderful water-skiing.

"Last month I was made vice-president in charge of manufacturing, here at Avon Sole Company. Business conditions fairly good, our big problem is to absorb added costs caused by labor, freight, materials, equipment, replacement, and so forth. Our industry can not seem to raise prices as easily as the steel boys do. Ah well . . . that's life."

Charlie Broder's article, entitled "Space Heating at Idlewild," appeared in the July issue of *Industry Power*. According to the foreword, "Charles Broder is the man responsible for mechanical design on all projects of the Port of New York Authority's engineering department. He was graduated from M.I.T. with a B.S. in Mechanical Engineering in 1931, and a Master's degree in 1932. Broder organized and taught courses in heating, ventilating, refrigeration, and air conditioning at Walter Hervey Junior College. He is Lieutenant Colonel, Ordnance Corps, U.S. Army Reserve. He served in World War II for three years, Pacific theater, with later active duty in the Korean War. Mr. Broder is a licensed Professional Engineer in the State of New York, member of the American Society of Refrigeration Engineers, and National Society of Professional Engineers."

The *Wall Street Journal* recently reported that George M. Bunker, President of the Martin Company, told the New York Society of Security Analysts that Martin is participating in the development of a missile to provide a defense against other missiles. He also emphasized his belief that there is no substitute for armed strength in the present world and said every technical breakthrough must be exploited fully to prevent an opponent from gaining the upper hand. With regard to the Vanguard earth satellite, which Martin is building, he said that early tests had been almost "too successful" but cautioned that difficulties can always develop in such a project.

Al Coleman, manager, Airborne Equipment, Engineering Products Division of Radio Corporation of America in Camden, N.J., attended the Second Alumni Officers' Conference at Technology early in September. Al is now living in Haddonfield, N.J.

An article in the *New York Times* this June mentioned that John Dyer, Vice-president of Airborne Instruments Laboratory, Incorporated, was a member of a four-man team of electronics engineers who made a visit to Moscow and Leningrad under the auspices of the State Department. The article reported John as saying that the Russian electronics industry would take 10 years to equal this country's production. The Soviet could accomplish this, he added, provided its economy could support the electronics program, and added that they lag slightly behind the United States in research and development in this field.

Fred Elser, whom you'll remember as an ardent radio ham during our student days, writes: "Was up at Tech about 2 months ago for the first time since graduation—on a Saturday, so only one I saw was J. A. Stratton, now Chancellor of the Institute. Just got back from a hot trip to California. My daughter Margy was married out there to Jim Arthur the 29th of June. Other daughter, Janet, got her M.S. from Columbia last month and is now a librarian in Buffalo. Remaining child, Fred, Jr., in high school, is enrolled as a junior at Valley Forge Military Academy for next fall. I'm a staff officer at the U.S. Army Signal School here, and still an ardent ham, as you can see by the above call letters (W2GVU)." Fred is a colonel in the Signal Corps and his address is 34 Russell Ave., Fort Monmouth, N.J.

A notice in the Charlotte, North Carolina, *News* tells of John Elting's reappointment as chairman of the Research and Technical Service Committee of the American Cotton Manufacturers Institute. John is director of the Textile Research Laboratories of the Kendall Company, and has been with them since 1934. Among other things, he is the founder of the Fiber Society and of the high polymer division of the American Physical Society.

A recent front page article in the *Wall Street Journal*, entitled "A-Bomb Business—Private Firms Play Big Role in Tests as A.E.C. Plans New Blast," gave credit for the supporting work done in this field by Edgerton, Germeshausen and Grier, Incorporated, of which Ken Germeshausen is president. According to the article, E.G.G.'s job is to set up and conduct scientific experiments in connection with the tests.

John Hollywood, another radio ham of our student days, is co-ordinator of research for C.B.S. Laboratories and will take an active part in the 1957 convention of the Audio Engineering Society, which will be held early in October.

Helge Holst continues to be active in Institute affairs. He lives in Concord, likes to work around the house, still has the same old pleasant smile for everyone, and is treasurer of Arthur D. Little, Incorporated.

Bill Jacobs, Stuart Knapp, Al Coleman, and yours truly had an old-fashioned bull session one evening during the Second Alumni Officers' Conference at Tech, early in September. Being president of a storage and warehouse company didn't keep Bill Jacobs busy

enough, so he formed another company, The Jet Spray Cooler Company. Now he's developing a hot chocolate dispenser.

Stuart Knapp, who is manager of the Engineering Service Division for Du Pont, is trying to build up interest in a Wilmington Technology Club. I'm sure he'd welcome word from any other Wilmingtonites who have the same idea.

Dick Kropf was recently elected president of the American Society for Testing Materials. Dick is vice-president and director of research for Belding Hemmings Company, Incorporated, and directs the activities of their Industrial Thread Division, as well as serving as vice-president and general manager of Belding Corticelli Industries, Incorporated. In addition to his other activities, he also lends his support to a number of other organizations and governmental agencies such as ACS, American Physical Society, Fiber Society (of which he is a past president), New York Academy of Science, trustee of the Textile Research Institute, American Association of Textile Technologists, and scientific consultant to the Quartermaster General.

Bob Leadbetter is still hopping around the country in his Piper Tri-Pacer. During a large part of the year, he commutes by air to his place in Nantucket on weekends, where he often sees Bob Backus and Brooks Walker. Brooks is an osteopathic physician and another aviation enthusiast with his own plane.

If you notice a sailboat sailing merrily along without any sails, there's a good chance that it has one of the transparent plastic sails that Russ Pierce has been experimenting with. So far the principal objection to these sails seems to be that they don't keep the sun out of the pilot's eyes. As a hobby, Russ is also doing some experimental work on divining rods. He claims they work but hasn't found out why.

Last May, Gil Roddy was elected President of the Alumni Association of M.I.T. More recently, he was elected executive vice-president of the Boston Manufacturers Mutual Insurance Company and the Mutual Boiler and Machinery Insurance Company. Gil, who lives in Concord, is the proud father of a 14-month old son.

A note from Don Severance tells that Lombard Squires has been nominated by the Alumni Association for the position of Alumni Member of the M.I.T. Corporation Visiting Committee. The Corporation's Visiting Committees are usually composed of nine members, three members of the M.I.T. Corporation, three non-M.I.T. members chosen by the President, and three M.I.T. Alumni members recommended by the Alumni Association.

The Class of 1931 was represented at Technology on Alumni Day this June by the following: Mr. and Mrs. Lawrence B. Barnard, Phil H. Bonnet, Mr. and Mrs. Gordon S. Brown, Myron F. Burr, Mr. and Mrs. Ralph H. Davis, Mr. and Mrs. James B. Fisk and guest, Mr. and Mrs. Harold D. Gurney, Helge Holst, Mr. and Mrs. Edward B. Hubbard, Mr. and Mrs. Claude F. Machen, Mr. and Mrs. Arthur T. Newell, Mr. and

Mrs. Albert R. Pierce, Jr., Mr. and Mrs. Bryce Prindle, Howard L. Richardson, Mr. and Mrs. Gilbert M. Roddy, Harry W. Shimmmin, Gordon Speedie, Edwin S. Worden, Jr., and Hugh S. Wertz. This list may be incomplete.

That the Class of '31 is taking an active part in Institute affairs is also indicated by the number of classmates who attended the Second Alumni Officers' Conference in September. Among those present were: Sam Bensinger, Al Coleman, Helge Holst, Bill Jacobs, Albert Kaye, Stuart Knapp, Bob Leadbetter, Russ (Albert R., Jr.) Pierce, Howard Richardson, Gil Roddy, and your Class Secretary.

All of us were saddened to hear of Harold Champlain's death last June. Harold, our first Class president, died of a heart attack in his home in New York City on June 26.

Members of Course XV and others who knew her also mourn the death of Olive Barnard, whom we remember so fondly during our student days.

Belatedly we learned of the death of Jeremiah J. McCarthy on August 26, 1956. No details were received.

Changes in address received since the last Class Notes are as follows: Joseph J. Alkazin, 7704 Whitefield Place, La Jolla, Calif.; Frank M. Baker, Kentucky Power Company, Ashland, Ky.; O. Mason Burrows, 13 Highland Avenue, Holden, Mass.; Charles S. Camplan, 8000 Broadmoor Terrace, Portland 1, Ore.; Dr. Benjamin F. Clark, Jr., 49 Goodrich St., Hamden, Conn.; Victor J. Duplin, Jr., Rt. #3, Box 785, Lynchburg, Va.; Rear Adm. Clarence E. Ekstrom, Com. Fair Elm, Navy 510, A.P.O., New York City; Captain Francis X. Forest, Hotel Salisbury, 123 West 57th St., New York City; Captain Stephen C. Gawlowicz, Headquarters U.S.A. R.E.U.R. Engineering Division, A.P.O. 403, New York City; Donald L. Herbert, 5305 Windswept Lane, Houston 19, Texas; John M. Hollywood, 50 Lafayette Place, Greenwich, Conn.; Dr. Mayer Hyman, 1632-N. Country Club Road, Tucson, Ariz.; Eduardo Jaramillo, Carrera 10 #16-8, 50 Piso, Bogota, Columbia, S. A.; Milton W. Krause, 234 Bedell Building, San Antonio 5, Texas; Captain Oscar Stiegler, 4830 Fort Sumner Drive, Washington 16, D.C.; Colonel Henry R. Westphalinger, Room 1E400, The Pentagon, Washington 25, D.C.—EDWIN S. WORDEN, *Secretary*, 9 Murvon Court, Westport, Conn. GORDON A. SPEEDIE, *Assistant Secretary*, 90 Falmouth Road, Arlington 74, Mass.

1932

After months of planning, propagandizing and conferring, the 25th Reunion of the Class of 1932 was all set to go on Saturday, June 8. A total of 123 classmates got together for all or part of the Reunion. Many brought their wives, and quite a few children attended. Reunion headquarters were established at Baker House, which was made available for our exclusive use. Most of those attending the Reunion stayed in the dormitories in Baker House with their families. Everyone seemed

to have a wonderful time from beginning to end. The Reunion Committee consisted of the following: Albert G. H. Dietz in charge of publicity and biographies; Robert E. Minot, program; G. Edward Nealand, finances; Albert J. O'Neill, biographies; William B. Pearce, prizes and loot; Thomas E. Sears, Jr., Class President; Donald Whiston, registration; and Rolf Eliassen, chairman.

Registration began officially on Saturday morning, although some arrived Friday evening. A Get-Reacquainted Bar was set up with drinks "on the Class." Reacquaintance followed quite readily in an atmosphere of conviviality. Some of the remarks which were heard about increasing age and girth had better not be printed, but most of us seem to be in the same boat. Long distance prizes went to Juan Serrallach who flew in from Barcelona, Spain, and Mr. and Mrs. Julio Gallese who flew up from Lima, Peru, arriving a little late. They had more trouble getting from Miami to Boston than from Lima to Miami. Our hats went off to these long distance travelers!

The first scheduled event of the Reunion was a cocktail party in the Faculty Club Lounge. This was followed by the Reunion Dinner in the dining room of the Faculty Club. There were 184 classmates and their wives at this dinner. The highlight of the evening was the Address of Welcome by Jim Killian who brought us up-to-date on some of the developments of the Institute and guaranteed us the run of the school during our sojourn here. Prizes and loot had been contributed by a number of the classmates and these were drawn by lot so that nobody went home without an armful of loot.

The business meeting of the Class was held following the dinner. The Nominating Committee under the chairmanship of Henry E. Worcester, Jr., presented the following slate which was unanimously elected. President is Robert B. Semple, Wyandotte, Mich.; Regional Vice-presidents were elected for the first time. The seven chosen were: Thomas E. Sears, Jr., Boston; Freeman W. Fraim, Jr., Essex, Conn.; James M. Shackelford, New York City; Addison S. Ellis, Philadelphia, Pa.; J. Cecil Rowe, Cleveland, Ohio; Carl J. H. Wahlstrom, Baytown, Texas; and Charles C. Wyatt, Seattle, Wash. Other officers were: G. Edward Nealand, Treasurer, and Rolf Eliassen, Secretary, both at M.I.T.; and Donald B. Gilman of Warren, Mass., Class Agent. Don reported on his activities as Class Gift Chairman. We had set a goal of \$32,000 for '32. After a tremendous amount of work on the part of the Class Gift Committee, the goal was not only reached, but was topped to a value of \$40,000. This has been reported in the June issue of *The Review*. The business meeting was short and to the point and was followed by dancing and conviviality at the bar. Drinks at the cocktail party were furnished as part of the Reunion fees and those after dinner were made available "on the house" through the courtesy of one of our Boston classmates, Richard J. Marcus. What an evening that turned out to be! Previous

years did not include wives at the Saturday dinner so we were the first to have wives at all our functions. Everyone agreed that this was a superb arrangement and certainly led to a wonderful evening for all. We never want to leave our wives out of a Reunion again, judging by the comments we heard from wives and classmates.

Sunday morning started with chapel services in the M.I.T. Chapel. The Catholic Mass was read by Father Nugent, the M.I.T. Chaplain for Catholic students. The Protestant service was conducted by the Reverend Wesley A. Mallery of the First Congregational Church of Winchester, Mass. A very good attendance was recorded at both services.

Busses left at 11 A.M. for Ipswich, Mass., where 156 classmates, wives and children enjoyed a tremendous day at the seashore. The Crane Estate at Castle Hill was placed at our disposal for a New England Shore Dinner and a real old-fashioned outing at the beach. Only a few braved the cold Atlantic but they received many comments for their bravery and/or insanity. It was really a perfect day weather-wise. Nobody could have asked for a better time or for a better opportunity to get together with classmates in an unsurpassed environment. At 4:30 the busses left for Cambridge.

The Reunion Committee had debated whether to make food available to those attending after the big shore dinner. However, just as a matter of safeguard, we arranged for a buffet supper put on by Mr. Anderson and his staff from the Graduate House. The salt air, liquid refreshments, or something, endowed the group with ravenous appetites and the whole buffet table was cleaned bone dry of food and drink. Fortunately, there was enough for all. Following that, Julio Gallese put on some movies of trips through Peru, bullfights, and his wedding. That was really a sumptuous treat for us all. Spanish and English seemed to flow rather freely during the evening of fun and relaxation.

After a continental breakfast on Monday morning, the group of 180 classmates and wives attended the Alumni Day Program which was reported in the July Review. An opportunity was given to all to see the tremendous growth and improvement of physical plant and facilities at M.I.T. during the intervening 25 years since our graduation. The highlight of the day was the dedication of the Karl Taylor Compton Laboratories. This was of particular significance to our class since we were the first to have our diplomas signed by Dr. Compton and therefore could be considered as his babies. The Alumni Day Luncheon in the Du Pont Court, the Social Hour at Briggs Field, and the Alumni Banquet in the Rockwell Cage, were all well attended. Our moment of triumph came when our President, Thomas E. Sears, Jr., presented Dr. Killian with the Class of 1932 Gift of \$40,000 for a Scholarship Fund in the name of the Class of 1932. The evening closed with a memorable concert by the Boston Pops Orchestra.

Some of our classmates left Monday evening but many stayed until Tuesday morning. A tired but happy group of

classmates, wives, and children went back carrying fond memories of M.I.T. and vivid recollections of our days as students here, and filled with the spirit of friendship for those who were with us here as students. We hope that in the years to come the spirit which was generated at this Reunion will be continued every five years, and may the wives always be with us! — ROLF ELIASSEN, Secretary, Room 1-138, M.I.T.

1933

June 14-16, 1958 is the weekend you should mark on your calendars now for the biggest — and hopefully the best — of all M.I.T. class reunions. The place: here in Cambridge on campus at Baker House. Under Charlie Bell's leadership, a fast moving committee is already at work to give you and your wife (bachelors are urged to take appropriate action between now and June!) a memorable weekend. You will be hearing soon and regularly from Charlie as plans develop.

Thanks to your cooperation, there is a large basketful of news of our classmates that has accumulated over the summer.

Honors for the month go to Dave Nason, Director of Engineering of American Safety Razor Company, who masterminded the move of his company from Brooklyn to Staunton, Va., as reported in a recent issue of the *Saturday Evening Post*. Dave is quoted liberally in the article; his activities as a manager are exceeded only by his wit. As a measure of the moving task, Dave comments "We were moving six months sooner than we'd planned, twice as fast, and doing it under police protection through a picket line in the dead of winter." Your secretary would add — and making razor blades at the same time!

Several of our class came to the Alumni Officers' Conference held here in early September: Otto Putnam, looking very healthy and happy after a fishing trip in the north country; George Henning, Jack Andrews, Leight Rickards, Don Brookfield, Art Hungerford, Lou Flanders, and John Longley. The schedule was a bit hectic but we managed to get together between sessions.

Our President had a busy spring: his son, Pete, was married and his daughter, Dedo, made her debut. The latter event was covered pictorially in a late summer story in *Life* on the Du Pont family. Your secretary would welcome news of your important family milestones. — Earle McLeod reports that he is busy serving as production manager for the three plants of Arnold-Hoffman and Company in Providence. — Congratulations to Newland Smith who has become president of the Gray Research and Development Company in Hartford, Conn. — An interesting letter from Ed Atkinson tells of his research activities with Arthur D. Little. Ed teaches an evening course in advanced organic chemistry at Northeastern and served last year as chairman of the Northeastern Section of the American Chemical Society. With his wife and two daughters, Ed lives in Wellesley . . . Bob Forbes reports from Knoxville, Tenn., where Bob is with T.V.A. that he is busy serving as treasurer of the Ten-

nessee Valley Unitarian Church. Bob's son entered Cornell this fall. — John Sbrega, head of the science department in the Holyoke High School for several years, has resigned to join the faculty at the Westfield State Teachers College. John has had in recent years three grants for further study, including one of the coveted Shell Merit Fellowships.

Congratulations to Lewis Moore for his promotion to the presidency of the American Oil Company with headquarters in New York. — Also, the best wishes of the class go to Dick Valentine who has recently been named general manager of the New Departure division of General Motors in Bristol, Conn. — Of special note too is the honorary doctor's degree awarded Phil Rutledge by Purdue University last June; Phil is a senior partner in Moran, Proctor, Mueser and Rutledge in New York and lives in Darien, Conn. — Walter Swanton moved last spring to Lynchburg, Virginia, to join the atomic energy division of Babcock and Wilcox after serving for six years with the Pfaunder Company in Rochester, N.Y. — We are happy to report that Les Lockman, who is with U. S. Rubber in Providence, is making a wonderful recovery after suffering a heart attack several months ago.

Remember — June 14-16, 1958 for a relaxing, refreshing, and most enjoyable week end with your wife on the banks of the Charles . . . R. M. KIMBALL, Secretary, Room 3-234, M.I.T., Cambridge, Mass.

1934

Hank Backenstoss again opens our class notes with the following letter:

Our Compton Scholarship Fund is making steady progress. This past year we have added just short of \$15,000 in actual receipts, bringing our total to some \$30,000. This includes only a relatively small amount from the three \$5,000 contributions which were announced late in the Fund year. There is also over \$6,000 in endowment life insurance purchased at graduation to be added in. When these are included, it can be seen that we are pushing ahead in no small way. Even so, we are still far short of our goal.

But this isn't all! We're actually raising other money not in this sum. Word is getting back to me that the class of '34 is being held up to other classes as a pacesetter and that this stimulant has been responsible for much larger contributions to the Alumni Fund than heretofore. We lead with our idea. And at the moment we lead in amount. Whether that will be true when June, 1959, arrives nobody can say. For the present keep your eyes on 1933.

Van Bush, speaking at the Second Alumni Officers' Conference in September, termed the Institute the "greatest engineering school in the world." He should know. He spoke of what was being accomplished today but, more important, he stressed how our rapidly expanding technology since the war had magnified Tech's responsibilities for superior engineering education and outstanding graduates at all degree levels. Many of the scientific advances during or just before the 1940-45

period are even now, despite concentrated effort, only a bony framework with much flesh and substance yet to be added. To do so will require the best engineering ability, and Tech proposes to supply the highest quality graduates it can. This is the M.I.T. for which we want to work. Our Fund aims to make this objective a better possibility for the student of limited finances.

Alumni Day at Cambridge was attended by Hank Backenstoss, Frank Baxter, Julius Goldberg, Irving Kusnitz, Ernie Massa, Arthur Miller, Mal Stevens, and Bill Main. This year's well received innovation was to include wives at the banquet. Looks as though this would be a permanent arrangement.

Irvin Gahm made news last summer as an exponent of bicycle riding for pleasant and healthful exercise. It seems that Irvin frequently rode a bike from home to the Institute during his student days, a distance of 10 miles. He has continued to ride since that time and now, as a physician practicing in Newton, makes his calls using his cycle for transportation. He adds his voice to that of Boston's Dr. White in pleading for bicycle paths to make riding less hazardous.

Paul Voyatzis is lieutenant colonel in the Army in command of a Nike installation in Connecticut. Paul has served since 1941 in numerous posts abroad and in this country. A news item states that he was to be the principal Memorial Day speaker at observances in Plainville, Conn.

Tom Burton was married early in August to Barbara Ann Allisin in Beverly. They now live in Cambridge.

Eric Isbister is now chief engineer, Surface Armament Division, Sperry Gyroscope Company, concerned with radar and computers for gun fire control and missile guidance. Eric has been active in professional society work.

A few classmates have looked in during the summer for an enjoyable visit. Joe Drankowski and his son Bobby were on a vacation trip from Pontiac where Joe heads up drafting at General Motors bus plant. Al d'Arcey is keeping up his golf game after work at United Shoe Machinery Corporation. Bob Boden tackles knotty technical problems which face North America's Rocketdyne division. Bob Franklin works in industrial relations at Sperry Gyroscope Company and is carrying the ball for M.I.T. as a member of the Educational Council. Bob says his apple trees at his Seasingtown Road, Roslyn, Long Island, home are prolific.

Henceforth, the writing of this column will be handled by three scribes instead of one. In response to a call for help, Mal Stevens and John Hrones have both agreed to write for three issues during each of the next two years. The class is in debt to both Mal and John for taking on this assignment. Your secretary is personally grateful for this help and is also hopeful that with it a greater flow of news from classmates will result. Look for Mal's column next month and John's the month after that. — Secretaries: WALTER MCKAY, Room 33-217; MALCOLM S. STEVENS, Room 1-139; JOHN A. HRONES, Vice-president for Academic Affairs, Case Institute of Technology, University Circle, Cleveland 6, Ohio.

1936

The summer mail has been very light on the news side but heavy in the change of address department. It sure would be nice if everyone added a little news when they sent in their new locations. Just one additional sentence could make an interesting news item out of a dull statistic. More and more of our brother classmates are locating on the West Coast, or in the New York or New Jersey areas.

Our Class Treasurer (and funds) have finally been located. Eli moved from Rye to the West Coast earlier this year. We now have it officially that the Eli A. Grossman family is residing at 14418 Benefit Street, Sherman Oaks, Calif. The June notes covered most of the details on Hank Lippitt's move to the Coast. He is still with Southern California Gas Company, 810 South Flower, Los Angeles 17, but the phone number is now Madison 5-3211. Also we now have his home address: 321 S. Mariposa Avenue, Los Angeles 5, Calif. — phone, Dunkirk 8-1832. Hank is still working on rate regulatory matters with which he has been concerned for the past 10 years. As Hank told the president of the company: "It took me 10 years to get back to California, but I am glad I made it at last." Hank attended the American Bar Association's meeting in London this summer. He describes it as the greatest assemblage of pomp and circumstance since the coronation. He reports that it was beautifully done and most impressive. "Where else would I have had the opportunity of going to a reception in the Royal Gallery of the House of Lords, or to a garden party to see the Queen at Buckingham Palace?" As secretary of the Association's Public Utility Section, Hank arranged for English barristers and solicitors from the gas, electric, railroad, and road transport industries all over England to meet with his group. Hank further reports that "most everyone said it was the best affair the Association had had in 33 years, since it was last in London in 1924." From all accounts Hank had a wonderful time — not to mention the tax angle.

Bob Gillette made the columns of the *Wall Street Journal* on August 14. Bob, as you probably know, is president of Rock of Ages Corporation, Barre, Vt. Their chief product is gravestones (they are called "family monuments" in the trade). The reason for making the news was the announcement that the company had purchased television time. Its aim is to get a larger share of the national market than it now has. The company also operates a capacitor plant for Sprague Electric Company and turns out a million of these tiny radio and television components a week. This business accounts for around 10 per cent of the company's net operating income. Bob is still looking for a way to use the seven and a half million tons of waste granite heaped up around the quarries. Only about 15 per cent of the stone quarried is good enough for monuments.

Norm Copeland has been appointed manager of manufacturing for cellophane and acetate film in the Du Pont Company's film department. This is a newly created position. For the past 14 months Norm has been on special assignment in

the film department in Wilmington, working on plans for the new cellophane plant which Du Pont is building at Tecumseh, Kansas. He joined Du Pont in 1937 as an industrial engineer in the engineering department in Wilmington, and was transferred to the film department in 1951 as technical superintendent of the Old Hickory, Tenn., cellophane plant. He was manager of the Old Hickory plant from 1954 to 1956.

Cesar Calderon has been appointed a director of the Government Development Bank for Puerto Rico. The appointment was made by Governor Luis Munoz Marin. The bank is not only the fiscal agent for all the various government authorities and corporations but is likewise the lending agency that facilitates long term financing for most of the new industries that have been established in Puerto Rico — now exceeding 400. Cesar is president and principal stockholder of Mantecados Payco, Incorporated, the largest manufacturer of ice cream and related products in Puerto Rico. Cesar also has occupied the position of commercial director of the Puerto Rico Industrial Development Company. Cesar's letter ends with a sad note — his father died of a cerebral hemorrhage suffered while vacationing in Madrid. Burial took place in Puerto Rico on June 5, the day following Cesar's birthday. Following this he rushed to Philadelphia where his wife was to undergo major surgery.

Fred Pahl has been appointed director of research and development for the Compo Shoe Machinery Corporation of Waltham, Mass. In announcing the appointment John F. Smith, president of Compo, stated: "His broad experience and outstanding ability in all phases of research, development, engineering, and design on a wide variety of machinery makes Mr. Pahl the ideal man for this extremely important position, and under his direction Compo intends to expand its research and development activities on shoe machinery and processes." Phil went to Compo from Bradley Container Corporation, Maynard, Mass., where he was a director of the firm and vice-president responsible for all technical phases of their operations. Joining Bradley in 1953, he had an active part in the development and growth of the company, contributing to the organization, products, equipment, and overall management. Prior to his association with Bradley, Phil for many years held a succession of high-level posts with United Shoe Machinery Corporation, Boston and Beverly, Mass. Beginning in 1936 he was involved in detailing, layout and machine design, eventually being responsible for the planning and supervision of several research sections. Leaving United Shoe for a period to accept the position of general manager for Production Methods, Incorporated, New York, Phil returned to United Shoe in 1946 and became executive assistant to the vice-president for research and development. He has had considerable experience in patent and business administration as well as technical selling and direction of development work for the Armed Forces and Atomic Energy Commission. The Pahl's have three children and reside in Harvard, Mass.

Doug Cairns, as you probably know,

is now mayor of Burlington, Vt. Before being elected mayor Doug was chairman of the Burlington Republican Committee. He went to Burlington in 1946 as salesman for the Platka Fuel Company. He is now president of the Champlain Oil Company. Doug belongs to a number of civic and service groups including Associated Industries of Vermont and the Greater Vermont Association. When Doug isn't addressing luncheon meetings or gatherings of the Lions Club he is busy with such interesting assignments as judging beauty contests. Recently he served as judge at the Miss Vermont Pageant. Doug and Frances and their two sons, Tony and Robert, live at 500 S. Willard Street. — JIM LEARY, *Secretary*, 1 Putnam Park, Greenwich, Conn.

1937

A report on the 20th Reunion has been sent to each member of our Class, and those who missed attending have been able to get some idea of the fun and frivolity that prevailed. Up to date it was our best reunion and I am sure that all of us have marked down June 1962, the date of our 25th Reunion, as a time they will not miss.

Over one hundred class members and their wives attended our 20th as follows: William M. Abbott, Prof. E. L. Bartholomew, Jr., William B. Burnet, H. Berkey Bishop, Jr., Alfred E. Busch, Ralph B. Chapin, Winthrop D. Comley, Edward V. Corea, Harry Corman, George S. DeArment, Charles M. Dierksmier, P. H. Dreissigacker, Jr., Leo Dantona, Evan A. Edwards, Joseph M. Engel, John H. Fellouris, Charles R. Gidley, Jr., Harry B. Goodwin, Karl P. Goodwin, Charles N. Griffiths, Josiah S. Heal, Melville E. Hitchcock, Edwin L. Hobson, 3rd, John K. Jacobs, Irving Tourtellot, Winthrop A. Johns, Thomas R. Kinraide, Lester M. Klashman, Martin M. Kuban, Jr., Robert D. Morton, Gilbert C. Mott, Dr. Mortimer H. Nickerson, John B. Nugent, Philip H. Peters, Professor S. Curtis Powell, George A. Randall, Irwin Sagalyn, Leonard A. Seder, Roy W. Smith, Harry S. Stern, Jr., Walter H. Sherry, Albert Shulman, Robert H. Thorson, Edward F. Tibbetts, Ralph P. Webster, Jr., George R. Weppler, Walter S. Wojtczak, G. Richard Young, H. Arthur Zimmerman, and James A. Newman, Jr.

In addition to the preceding list, Henry Guerke, Melvin Prohl, and Joe Smedile attended the Alumni Banquet with their wives, as well as Sidney Levine. It was nice seeing them and we regret they couldn't make our festivities at The Belmont. The Boston Pops Orchestra conducted by Arthur Fiedler in M.I.T.'s Kresge Auditorium was a fitting ending of a long to be remembered week end.

Walt Blake, who is manager of the Research and Development Department of the Pillsbury Mills, Incorporated, in Minneapolis, sent a letter to Windy Johns with his regrets that he and Susan couldn't make the reunion. Letters of regret were also received from Rutherford Harris, along with a note to the temporary reunion committee which has operated for the last ten years and is, as he says, "still adhering to the forlorn hope that theirs is a temporary assignment"; from Jack

Hanlon, Technical Director of the Mohasco Industries, Incorporated, Amsterdam, New York; from Norm Birch who spent his vacation on the Cape in July; from Rolf Schneider who is with Langner, Parry, Card, and Langner Foreign Patents and Trademarks, New York, N.Y.; from Bill Bergen, Jervis Webb and Dave Fulton.

As you already have been notified, Class officers were elected at our Class meeting at the reunion as follows: President, Phil Peters; Treasurer and Chairman of the Class Gift Committee, Joe Heal; Secretary, Bob Thorson; Assistant Secretary, Curt Powell and Jerry Salny; Chairman of the 25th Reunion, Windy Johns. How Windy ever shifted this job to us is still a mystery, but if everyone cooperates with us, we should be able to keep up the good work that Windy has done for the last 20 years. All we ask is that you help by sending us letters, post cards, newspaper clippings, Christmas cards, and so forth. In return we will try to give you an interesting report each month. We will send out letters, cards, and questionnaires during the year, and if everyone will take two minutes to answer them, your secretaries will be supplied with ample material.

One suggestion made was to arrange our files so that if you are traveling or moving to a new location a list could be made available of the members of our class in that locality. We have worked on this idea and are ready for your requests. If you have any other suggestions or ideas, write to us and tell us about them.

Several requests have already been made for a photographer's print of the 20th Reunion. These can be obtained for the cost of one dollar from the photographer, Bartlett M. Hathaway, 52 Sewell Street, Newton, Mass.

Charles R. Kahn, Jr., who intended to attend our 20th Reunion but had to change his plans at the last minute writes: "We certainly missed not being able to make our 20th Reunion but have all intentions and expectations of being with the group at the 25th. Knowing of the Oyster Harbor Club on Cape Cod, we are really looking forward to the turnout at that time." George M. Levy also sent his regrets that he couldn't make the reunion after making his reservation. George is married, has two girls, and is the owner of the Levy Hardware Company, Incorporated, of 25 Stuart Street, Boston, Mass.

George and Elinor Ewald announced the arrival of a baby girl, Carol Elinor Ewald, born on August 3, 1957. Congratulations George. We hope other members of our class will put us on their mailing list of announcements, Christmas cards, and so forth.

Joe Smedile, a colonel in the Army, is comptroller at Fort Leonard Wood, Mo. Joe joined the service in 1937, a few months after graduation. He has served in Panama; the district engineer's office in Savannah, Georgia; as commanding officer of an air-borne unit during World War II in the Pacific; in charge of a military detachment in Bolivia; as district engineer in Jacksonville, Fla.; and now as comptroller. He married a southern girl, Martha, and they have one son. While we were at our 20th Reunion, Joe was

celebrating his parents' 50th wedding anniversary. However, as mentioned previously, Joe and Martha attended the alumni banquet, and we enjoyed seeing them.

Paul A. Vogel has just been appointed treasurer of the Underwood Corporation. Paul was formerly associated with Shea Chemical Corporation of New York City as director of commercial research. Prior to that he was associated with Standard and Poor's on financial analysis, with Du Pont's on methods and standards, and with Allied Chemical and Dye Corporation. He is a member of the New York Society of Security Analysts, American Marketing Research Association, and Chemical Market Research Association. The Vogels live at Birch Road, Westport, Conn., and have a son and a daughter.

Henry Blackstone is head of the Servo Corporation of America, New York, which he founded in 1946. The Company first set up shop in a vacant Long Island dance hall, now has some 230 employees and manufactures automation, radio communications, and navigational systems as well as infrared devices. Military applications of infrared, or IR, have received attention in such fields as fire control, aerial photography and guided missiles. Henry has had a pioneering hand in them all.

Just heard from Joe Heal and he reports the response for Class dues is very gratifying, but that there are still a few who have not answered. In case you have misplaced his address, it is Joe Heal, 39 Tower Road, Hingham, Mass.

President Phil Peters writes: "Bob Thorson has already given those of you who didn't attend our 20th Reunion a report of the wonderful time we all had together. Already plans are in the making for our 25th, and the biggest improvement we hope to make over our gala 20th is the getting of more of our Class back for that quarter century reunion. Do start making plans now for you and your wife to be at Oyster Harbors in June of '62. Don't forget the children, too.

"It is a privilege to serve as your President during these next five years. Speaking on behalf of all of your officers I can assure you we shall do our best to represent our Class well during these years which will culminate in our most important reunion.

"The other day I had a note from Pinky Webster, who advises that he and his wife presently are living in Hawaii, where he is a colonel in the Army, and assistant chief of staff for his operation. He promises to do his damndest to be at the 25th. Also, some of the others of you may have received, as I did, a notice from Walt Blake that he has left Pillsbury Mills, and now is Vice-president and General Manager of the W. C. Brabender Company in New Jersey. It sounds like an exciting adventure for Walt, and a real step forward.

"Friday, September 6, and Saturday, September 7, were the occasion of the Second Alumni Officers' Conference at M.I.T. Curt Powell, Walt Blake and I were there from the Class of '37.

"It was most impressive to learn of the growth of the Institute and its plans for the future. While the current student body certainly is of high calibre, and compares favorably with its predecessors, one

of the most important tasks ahead for the Institute is attracting to the Institute as students, the highest possible quality of student and alumni potential. Only thus can the Institute be certain of making the most significant impact on our society through the decades ahead. We, as alumni, can help immeasurably on this score, particularly in making certain that the correct 'image' of the Institute is appreciated by potential students throughout the country. Too many otherwise potential students think of the Institute as somewhat narrow in its scope of education, and don't appreciate the broad horizons of the present day curriculum where major emphasis is placed upon the social and cultural development of the student so that he can use his technical knowledge in full perspective." — ROBERT H. THORSON, *Secretary*, 506 Riverside Avenue, Medford, Mass. PROFESSOR S. CURTIS POWELL, *Assistant Secretary*, Room 5-323 M.I.T., Cambridge, Mass. JEROME E. SALNY, *Assistant Secretary*, Egbert Hill, Morristown, New Jersey.

1938

On September 6 and 7 the Institute sponsored the Second Alumni Officers' Conference for Class and Club officers and representatives of the Alumni Fund and Educational Council. The Class of '38 was well represented with Lou Bruneau, Haskell Gordon, Fred Kolb, Bob Johnson, Harold McCrensky, Don Severance, and your Secretary present. The meeting was most interesting and informative, and even was the source of some news of our classmates. Fred Kolb relates that on trips from Florida to Rochester he regularly stops at a motel in Rocky Mount, N.C. On his last visit there he was a bit surprised to meet Mike Cettei, who has the motel as one of his enterprises. During our meeting Fred was the recipient of a Bronze Beaver as an award for his accomplishments as chairman of the Rochester regional solicitation. The region under Fred's leadership has achieved 70 per cent participation in the Alumni Fund. Harold McCrensky's attendance at the meeting was a bit handicapped by a bulky bandage around his right arm. The reason: an infection developing from an insect bite received when Harold was in the Dominican Republic.

We have cards from a couple of classmates. Joe Bryan writes: "After nearly 15 years with M.I.T. on the staff of Division of Industrial Cooperation, Division of Sponsored Research, have at last decided to take a fling at industry and have joined the Central Research Laboratory of American Machine and Foundry at Greenwich, Conn., where I am employed as an Operations Research Analyst. My M.I.T. roots are very deep, but I think the transplant will work out well." And from Frank Kearny we hear: "Have been transferred to home office of Butler Manufacturing Company at Kansas City as product manager of grain drying and conditioning equipment for the company. Mary Frances and children, Frank III, Mathilde, Annette, and Michael are with me."

A news release from Esso Research and Engineering Company tells us that

Arnold Kaulakis has been appointed director of the company's process research division. Before the appointment he was director of employee relations. This is a rotational assignment in accordance with the company's management training program.

Another release concerns Louis Forbrich, who has been appointed general manager of the Cement Division of Pittsburgh Coke and Chemical Company. He joined Pittsburgh Coke and Chemical in 1946 as chief chemist and assistant superintendent of the Green Bag Cement Division. In 1950 he was appointed superintendent of that division, the position he was holding at the time of his most recent appointment.

Before his association with Pittsburgh Coke and Chemical, he was director of Research and Development for the Bessemer Limestone and Cement Company, joining that organization in 1940. During World War II he conducted research studies on concrete at the Institute for U.S. Maritime Commission projects. He was also employed in the research and development department of the Master Builders Company. From 1933 until 1938, he was a research chemist for the Portland Cement Association in Chicago. During his employment there, he was awarded a fellowship and attended M.I.T. from 1936 until 1938, when he received a Master of Science degree in Chemistry and Chemical Engineering. He is the author and co-author of several technical papers on cement and concrete.

Aram Kerkian was also in the news recently. In Newburyport he received a provisional appointment as agent of the board of health, milk inspector, and sealer of weights and measures. With the necessary civil service exams the appointment can be a permanent one. Aram is married to the former Virginia Inman, a registered nurse. They have five children. In 1940-41 he spent a year of graduate study at M.I.T.'s School of Public Health. The next year he studied at Columbia's De La Marr Institute of Public Health.

Before he took up his graduate work at M.I.T. he was the chemist at the Plum Island chlorination plant. His next employment was a civil service appointment as District Health Sanitation Officer in Worcester for the Massachusetts Department of Health.

He served in the Navy during World War II in various positions including Industrial Health Officer research officer and quarantine and sanitation officer. Following the War he was director of the clinical laboratory in the Akron, Ohio, Private General hospital for 11 years. He has recently returned to Newburyport to become a full business partner with his brother Roy. They have a service station and also operate the City Builders Construction Company and a nursing home.

The Acker family is looking forward to an interesting year. Apparently four children aren't enough for us, for we now have an exchange student from Switzerland living with us for the school year. He is a senior in high school and has fit very well in the family. — DAVID E. ACKER, *General Secretary*, Arthur D. Little, Incorporated, 30 Memorial Drive, Cambridge, Mass.

Al Laker drove up in his beautiful blue convertible during August and showed Hilda and me his itinerary for a one-month trip through England, Scotland, Denmark, Germany, and France. Al said his plans included "taking a number of colored pictures and having a number of colorful adventures." For those who want more details write Al at 3931 West 8th Street, Los Angeles 5.

Have had a couple of pleasant phone visits with George Cremer and learned that Number Six arrived on February 17, 1957. It was a girl and she is named Elizabeth. This makes the count five daughters and one son in the Cremer household and, I believe, puts George number one in the Class for Production Assistants.

Spent a pleasant afternoon with Ben DeSimone and his lovely wife at their home in Pacific Palisades. The house was formerly owned by a movie star and, believe me, life with your own swimming pool is something to put one on Cloud Nine. Of course the two charming daughters Susan and Pat help. Ben keeps busy with a number of projects and among other things consults, sells jet engines and jet engine assemblies, and is president of his own company which manufactures and sells a combination brush, hose, and detergent holder which can be fastened on most kitchen faucets and can be used to make dishwashing easier and better. Ben demonstrated the Little Marvel to me and it works great. Price is \$14.95, and if any of you fellows want to make dishwashing easier on your wives (or yourselves as the case may be) just send Ben a check at The Precision Development Company, 2700 Lincoln Boulevard, Santa Monica, Calif., and he'll send a unit on to you. In return for this sales plug I'll expect Ben to remit 10 per cent of all sales generated to Bill Wingard who probably will need a lift for pre-reunion mailing expenses for our 1959 reunion.

Saw an announcement in the *Wall Street Journal* that Christ Cella's famous restaurant had relocated at 160 East 46th Street, New York. If you drop in there to see Dick he may add a little spice to your meal or cocktail with stories of his adventures while on a big game-hunting safari in Africa. Dick will also send 10 per cent of your tab to Bill Wingard for the reunion.

Leonard Jaffe was a "wheel" in the recent AIME regional conference held in Los Angeles. However, most of these affairs wind up by the committeemen all chipping in to pay the last-minute unbudgeted expenses so we can't stab Leonard for any contributions. This time, that is.

Digressing for the moment from reunion and the class of 1939, I believe you may be interested in knowing that Roy Nelson '40 has been elected a Vice-president of American Gilsonite Company. This company is most unusual because it refines a black solid (Gilsonite mineral) to make gasoline. Most other refiners use a liquid raw material (crude oil) to make gasoline. One of Roy's by-products is petroleum coke, which, by the way, is the most pure of any manufactured anywhere in the world. As chief engineer, Roy had

his hands full for the two or three years that it took to get the \$10 million plant built and operating.

And now, while we look ahead to the big class reunion in 1959 we can enjoy a few smaller reunions via these notes in the meantime. Why not drop me a penciled note RIGHT NOW, while the thought is fresh in your mind, so I can pass along a few of your good words? — HAL SEYKOTA, Assistant Secretary, 416 Calle Mayor, Redondo Beach, Calif.

1940

After the summer doldrums, there is quite a bit of activity to report.

From Louis Michelson comes the following: "At the present time, I am manager of Rocket Engines for the General Electric Company in Cincinnati, Ohio. We are busily engaged in making rocket engines for the earth's satellite you have been reading so much about. This has proven to be a most fascinating hair-raising and exhausting experience, but all is turning out well; and with luck our engines may put an artificial moon in the sky before the year is out.

"About the only classmate of ours I have seen lately is Beano Goodman, who drops in from Madison, Ind., occasionally.

"Mrs. Michelson, my 14-year-old daughter, and I expect to visit with some of our classmates when we are back East later this summer. Our vacation was delayed when I got thrown from a horse a few weeks ago and broke my ankle. As soon as I get out of this concrete sock, we hope to motor back to New England.

"I am enclosing a copy of our pamphlet 'Power for the Rocket Age' which shows some of the test work going on at our widespread rocket facilities." The pamphlet referred to is an illustrative brochure disclosing in general terms what is being done at the General Electric Laboratories. The first page is adorned with a picture of Louis. Unfortunately, the Review columns are too condensed to include the entire brochure.

During my summer vacation I had the opportunity to visit Beano and Jeannette Goodman briefly and received Beano's permission to quote from a previous letter I had received from him.

"Not too much more news from here. We're about to start building a new plant as we've about outgrown the backyard operation with which you are familiar.

"One of my bridge playing acquaintances and friends, E. J. Schickli, Jr., '50, IV, is designing the thing. He has done his sketches which are real pretty—the guy is really good. I am at present trying to con the Pennsylvania Railroad into a free gift of a site.

"All the best to your beau. Come see us this summer on your way to Fulton. We'll be here all except for July 31 to August 18.

"The little Mercedes Diesel which we bought last fall in Germany is still running fine at 38 miles per gallon No. 2 diesel fuel (or furnace oil at 15.9¢). I now have 20,000 miles on it. 250,000 more and it will have paid for itself in fuel savings."

It is with deep regret that I must report the death in an automobile accident on July 7, 1957, of M. Richard Erickson, XII.

I do not have any further details to report at this time.

The first recorded member of our class to retire is Claude V. Hawk, Captain in the Navy. Claude retired from the Navy on July 1, 1957. However, the retirement did not last very long since he immediately went to work for the Harrison Radiator Division of General Motors in Lockport, N.Y.

In a newspaper interview in Atlanta last spring, Dino Olivetti, who is president of the Olivetti Corporation of America, predicted both the predominant Social Democratic party and the Communist party in Italy may be replaced, possibly by a combination of the Socialists and other parties.

Frank Yett, who teaches mathematics at Pasadena City College, recently was awarded his Ph.D. from the University of California in Los Angeles.

Joe Owens, who is general manager of the J. F. Owens Machinery Company and president of the American Machine Tool Distributors Association, is the author of the article "How Modern Machine Tool Distribution Helps You" which appeared recently in the *Modern Machine Shop* magazine.

Regis Harrington is Planning Director for Quincy, Mass. An article in the *Quincy Patriot Ledger* points out that in his job he must combine political sensitivity with professional expertness in his capacity both as a thinker and a doer. John Burr, who was associated for a long time with the Atomic Energy Commission's Oakridge Division of North American Aviation, has written a new book, *Tracer Applications in Organic Chemistry*, which should appear before this column is in print.

Considering the fact that this was an off year, our class was well represented at Alumni Day. The following notes on Alumni Day are the contribution of Sam Goldblith:

"The program was indeed a full one as you have seen in the July issue of *The Review*. We thought it might be advisable to mention the names of some of the people who were there and their present association, since some of the members have changed positions since the most recent edition of the *Alumni Register*.

"Martin Abkowitz is now an Associate Professor of Naval Architecture at M.I.T. and Jim Baird is associated with Artisan Metals. Edgar Bernard was present with his wife. Edgar is a partner in Sidney Lemberger and Son, who manufacture agents for automotive parts in Brookline. Dick Berry showed up with his bag of tricks. Dick is field engineer for the Thomas A. Edison Storage Battery Division.

"Bob Bittenbender was present with his wife. Bob is the technical and administrative engineer at Arthur D. Little's down the line. John Danforth is now Chief Engineer at High Voltage Engineering Corporation. Bernie Feldman (Joshua B.) is the deputy associate director and executive officer for the Instrumentation Lab at M.I.T. Jack Gray (John R.) is the treasurer of Doelcam Corporation.

"John Kapinos, chief engineer of the

Product Design Division of the Package Machinery Company of East Longmeadow, Mass., was also present. Wylie Kirkpatrick brought Mrs. Kirkpatrick (a Virginian rebel, no less). Wylie is now with the Cryovac Division of W. R. Grace and Company. F. Kimball Loomis of the Springdale Laboratories Division was also present, as was John J. Piotti, Jr., treasurer of the J. J. Piotti Company in Dorchester who sells television and high-fi sets and other appliances and who says we can all get it wholesale if we come to visit him. Phil Stoddard, who is the assistant treasurer at M.I.T., was present all day and M. Arnold Wight, Jr., was present also. He is with the Rohm and Haas Company of Philadelphia, Pennsylvania.

"Bernie Stiff who is now with the United Shoe Machinery Corporation of Beverly was present with his wife as was your Assistant Secretary, Sam Goldblith, now the Executive Officer of the Department of Food Technology at the Institute, and his wife.

"This brings to mind something that all of us ought to be thinking about and that is that we should start now planning for our 25th reunion, some eight years hence and try to get up the biggest 25th year gift in the history of the Institute."

Charles Freeman, our hotel man in Nassau in the Bahamas, is in the news again. Charlie, who is president of the Royal Victoria Hotel in Nassau recently acquired control of the Carlton House Hotel. He plans to modernize the latter hotel completely. In addition, the Royal Victoria Hotel is being expanded. Classmates who are planning to take a West Indies vacation this winter should get in touch with Charlie. The pictures of his hotels that accompanied the newspaper articles announcing their expansion are most inviting. Ted Dinsmoor has been appointed Deputy Group Executive of American Machine & Foundry Company's defense products group at Alexandria, Virginia. Previously, Ted was Deputy Chief of the Engineering Division of the Naval Ordnance Laboratory.

H. Tyler Marcy has been selected as manager of the Data Processing Division, Product Development Laboratory of International Business Machines Corporation in Poughkeepsie, N.Y. Captain Charles Booth, who is one of the youngest captains in the Navy, has been placed in command of the newest aircraft carrier, the U.S.S. *Ranger*.

John Starr is the president and also a director of the newly established Canadian Badger Company, Limited, which is a subsidiary of Badger Manufacturing Company. The Calidyne Company, which was founded by three M.I.T. men including our own Tom Gouzoule, as a three-man operation, has rapidly expanded and is now building a plant to employ 400 in Woburn, Mass., to bring its scattered operations under one roof. The company manufactures vibration testing equipment.

Jerry McAfee has been nominated by the Alumni Association for the position of Alumni Member on the M.I.T. Corporation Visiting Committee for the Department of Chemical Engineering. Jerry will be the first member of our class to

receive this honor. The Visiting Committee functions to give the departments at Tech the benefit of advice and opinions of an interested group other than those actually connected with the M.I.T. faculty or administration.

Vernon Kyllonen is now located with the Bureau of Ordnance and situated at the Navy Building in Washington. He advises that Runyon Colie has graduated from dinghies and is now in the yacht brokerage business. Chappie Halstead is with the Alcoa Steamship Line, while Tom Cramer is vice-president of the national City Bank in New York. Dan Crosby is with Standard Oil. Schrade Radtke is director of Metallurgical Research for Reynolds Metal. Vernon has two children, a girl 8, and a boy 6.

As will be observed from the above, this has been an eventful summer for members of the class. Your secretary is no exception. During the summer, he was made a partner in the patent law firm of Cushman, Darby and Cushman, with which he has been associated for four years, and also has acquired a new house at 7515 Granada Drive, Bethesda 14, Md., equipped with a "wreck" room, which has been put to good use by his sons. To make the summer complete, while on vacation, he walked off a porch but neglected to go down the stairs, resulting in one broken rib and a dislocated shoulder. He has fully recovered, however.

This column has gotten off to a good start. Let's keep it up by continued correspondence to the Secretary and Assistant Secretaries. — ALVIN GUTTAG, *Secretary*, Cushman, Darby and Cushman, American Security Building, Washington 5, D.C.; SAMUEL A. GOLDBLITH, *Assistant Secretary*, Department of Food Technology, 16-325 M.I.T., Cambridge 39, Mass.; MARSHALL D. MCCUEN, *Assistant Secretary*, 4414 Broadway, Indianapolis, Ind.

1941

I've just returned from a most interesting and inspiring two days at the Second Alumni Officers' Conference, held at the Institute September 6 and 7. A full account of the program and the activities will be found elsewhere in The Review. For my part, the changes and additions to the Institute plant and the research going on in so many lines new and unfamiliar to me, make the place seem almost strange. And yet, at the social hour in President Killian's garden, seeing many familiar faces and becoming acquainted with the new people and how their work is carrying on the traditions of M.I.T., the place seems no different than when we were there: the ideals and the goals, the staff and its determination to maintain a technical institution second to none, the *esprit de corps*, are still the most important part of the Institute. It is for just such a renewing of our faith in M.I.T. that such conferences are held, and I personally found my stay very enjoyable. We were housed in the new senior dormitory, Baker House, which is itself worth seeing. Hard on our heels as we left was the incoming freshman class of 1961, a whole new generation of Tech

men having passed through in the twenty years since we first started. If you're in Boston and have any time to spare, be sure to pay a visit to the Institute, especially if you haven't been back recently. The new Compton Laboratories, the Dorrance building, the new Hayden library, and many other new facilities are fascinating. All you "foreigners" (i.e., non-Bostonians) will be interested to know that the Massachusetts National Guard Armory on Massachusetts Avenue has been bought by the Institute and will be used for athletics, in conjunction with Rockwell Cage and Briggs Field, which are adjacent.

Attending the Conference from '41 were Hank Avery, Assistant Class Secretary; Ed Beaupre, Educational Council (covering New Hampshire); Bob Blake, Washington Club; Bill Hargens, Educational Council and Philadelphia Club Treasurer; Knut Johnsen, Educational Council (western Pennsylvania); John Macleod, Alumni Fund; Sam McCauley, Philadelphia Club President; Ed Marden, Class President; Norm Vandervoort; and Reid Weedon, Class Agent. (Incidentally, lest anyone think that the Philadelphia Club is dominated by '41 men, don't forget their hard-working secretary, Herb Moody.) The following bits of information about some of the above men came to light: Ed Beaupre is giving his two older boys (ages 12 and 13) slide rule training in preparation for an education at M.I.T.; Bob Blake is a partner in a construction firm; Bill Hargens is at Franklin Institute; John Macleod has recently moved to Marblehead, Mass., and is doing technical recruiting for the General Electric Small Aircraft Engine Department in Lynn; Sam McCauley has been to Iran in line with a new position he has, which is described in a little more detail below; and Norm Vandervoort is in the sewing thread business and has three children.

Carl Stewart is still gaining in his fight with polio, as reported by our faithful correspondent, Marge: "When he entered Mt. Sinai Hospital in New York a little over three months ago, he was practically flat on his back. Soon after arriving at Sinai he was up in a wheel chair. He now is in it for as long as 13 hours a day, and can wheel himself around in it fairly well. He shaves himself very well, and with the aid of arm supports he feeds himself all meals. I have been getting instructions from the nurses on the portable respirator (which Carl needs only for sleeping now), and also on the hydraulic lift, which enables me to get him from wheel chair to bed with no trouble. We spent one week end in New York away from the hospital, and next Thursday, August 29, we are bringing him back for his first week end at home since his initial illness on September 10 of last year. We take him back September 3. He looks so good, and his spirits are more wonderful than ever. We have great hopes for the future. The doctor says he cannot predict just when Carl will be able to return to work, for he has a lot of potential yet to be developed. But he is sure he will be able to go back to a full time desk job. P.S.: Carl will be writing the next 'report'!" Glad to hear it, Carl;

keep up the good work. And to the rest of you, letters or cards will always be welcome; address, C. M. Stewart, 1498 Letchworth Road, Camp Hill, Pa.

Millie and Joe Quill and their three boys have left Schenectady for Roanoke, Va., where Joe is now manager of marketing research and product planning for the General Electric Industry Control Department. From graduation until 1949, he was with the company's Control Department, and then with the Systems Application Engineering group. He was most recently in Engineering Services, responsible for special engineering studies. In 1952, Joe received the Coffin Award, the company's highest award, for his outstanding work in the application of gas turbines to gas pipeline pumping stations. — Also moving up on the General Electric ladder is Don Scarff, now Western Region Sales Manager for the Large Lamp Department, responsible for the performance of five lamp sales districts headquartered in Denver, Los Angeles, Oakland, Portland, and Seattle. He is based in San Francisco. During the war, Don was associated with the design and development of aircraft radar and ordnance equipment for the services. Following assignments in lamp sales, sales promotion, advertising, and manufacturing in Boston, Cleveland, and Memphis, he was named manager of the Puget Sound Sales District in Seattle in 1953. He became manager of the Pacific Sales District in Oakland in 1955. He is married and has two children.

Roy Nelson has been elected vice-president of the American Gilsonite Company, and will also continue as manager of production, encompassing all production activities of the company, including the new gasoline refinery and coking plant being erected at Gilsonite, Colo. Roy joined the company in January, 1949, after having held various refinery positions with the Standard Oil Company of California. He has been largely responsible for the company's new product, Gilsonite, which is used for insulating hot underground pipelines.

Bill (Schwindler) Stuart's wife wrote: "Bill now teaches engineering subjects at Erie County Technical Institute in Buffalo; is also manufacturer's representative for various industrial pumps, chlorinating equipment, electronic tools, and so forth. We have six youngsters ranging from 12 years down to one-and-a-half-year twins — 'nuff said." And, from Pierre Hartshorne, commenting on the Class statistics and other things: "The hair is about as it was. I wrestled on the freshman team at 165 pounds; now I shove the pointer to something over 210. My only contact with Course X, '41, has been Elmer Greenleaf. I spent one night at his home in 1953, and he dropped in on us several months ago. One of these days, we'll get the ladies and children together. I'd very much like to know where Zeke Cline, Buster Rudd, Chet Hargens, Bill Klaassen, Don Dixon, and Elmer Hanak are nutting in their time. (Here's your chance, men — sound off! — Secretary.) If any of the other gents are in the neighborhood, I'd be most pleased to have them visit with us. Los Alamos is not far from Santa Fe by our standards

of distance. I have, with some help from a native New Mexican nee Smith, M. Lorraine, sired four sons, Michael, Joseph II, Stephen, and Mark. I wangled my way through a special command and staff college course before I caught a promotion to major in the artillery. I guess that must establish some sort of record for the oldest captain ever to come out of M.I.T.'s R.O.T.C. — ten years in grade — I had my difficulties with the brass during World War II. If anyone should be interested in further reports, let us know. Oh, yes, the job. I am assistant section leader of a small outfit working all kinds of plastics and elastomers on equipment running from a dime-sized spatula to a 5000-ton press. We will try anything once (over my objections on occasion), and have had a hand in many interesting problems and the solutions thereto." Thanks a lot for your story, Pierre; how about hearing from some other Course X men?

Sam McCauley, pillar of the Atlantic Refining Company, has been elected president of Iricon Agency, Limited. Iricon represents the five percent interest in the Iranian Oil Consortium held by several American oil companies, including Tidewater, Richfield, and others, as well as Atlantic. Sam's story of his month or more in Iran on this detail was very interesting, and I hope we can get some of it into the column — Elliott Buell writes, "As of July 1, I resigned my position as technical director of the Aerial Measurements Laboratory, Northwestern University, to accept an appointment as professor of mathematics at Worcester Polytechnic Institute." . . . Bob Sinsheimer accepted, as of July 1, the position of professor of biophysics, Division of Biology, at the California Institute of Technology. Bob was also renominated by the Alumni Association as Alumni Member on the M.I.T. Corporation Visiting Committee for the Department of Biology. Nominated for a similar committee post for the Department of Physics was Herman Affel, Jr. The purpose of the Visiting Committees is to give the department the benefit of advice and opinions of an interested group other than one actually connected with the M.I.T. faculty or administration. The committees are usually made up of nine members: three from the Corporation, three non-M.I.T. members chosen by the President, and three alumni recommended by the Alumni Association. — Leaving California for the East is Erling Hustvedt, who is to be administrative assistant to the headmaster of St. Alban's School in Washington, D.C., his alma mater.

Are there any bachelors left? On June 30, in Whitman, Mass., Miss Phyllis Ann Feeney became Mrs. Stanley Webber. Our belated, but nonetheless sincere, congratulations. Stan is with the New England Telephone and Telegraph Company, and he and his wife are now living in Whitman.

Very much in the news this dry summer has been Wallace Howell of Lexington and his efforts to produce rain by cloud seeding over Rhode Island and Massachusetts. Dr. Howell's efforts have been as successful as conditions have al-

lowed, but, as he says, "Nothing can be done if the clouds lack moisture," which is about the way our weather has been all summer. A former director of the Blue Hill Observatory, and a holder of a doctorate in meteorology from M.I.T., he operates his own firm in Lexington, and is now working on weather projects in Canada and several Central and South American countries.

Present at Alumni Day, June 10, were Bud and Mrs. Ackerson, Walt Kreske, Sam and Mrs. McCauley, Howard and Mrs. McMahon, Ed and Mrs. Marden, Charlie Sauer, Reid and Mrs. Weedon, and Jack and Mrs. Obermeyer.

Our congratulations to Obie Dennison '11, who hasn't missed a column in 46 years! That's an amazing record, and one which certainly rates him the Bronze Beaver Award which he was presented at the Alumni Officers' Conference. However, if the material is available, the column goes together easily. So, keep the letters coming: the more the merrier. — IVOR W. COLLINS, *Secretary*, 28 Sherman Road, Wakefield, Mass.; HENRY AVERY, *Assistant Secretary*, Pittsburgh Coke and Chemical Company, Grant Building, Pittsburgh 19, Pa.

1942

The first item of record in this new volume of the Technology Review is the birth of Frances Gail to Rhoda and Alan Katzenstein on May 25, 1957. For obvious reasons, the Katzensteins were not able to be with us at our overwhelmingly pleasant 15th reunion. We missed them, as we also missed the expecting Nichinsons — Bradley Benjamin was born on July 29 — and the many other members of the class who, unfortunately, were not able to join us for a truly superb weekend. 86 members of the class, 78 of whom brought along their wives, enjoyed a delightful week end of fine fellowship and the best of New England weather at the Chatham Bars Inn last June. Even distance was no obstacle, for three representatives of California were present — Mac Kaplan, Jack and Maryann Quinn, and Bill and Janet McGuigan. They were naturally awarded prizes from our large store of gifts (mentioned briefly below and to be covered in complete detail in a Reunion booklet that Harvey Kram is assiduously working on). Among the many unusual highlights of our wonderful reunion was sailing in Tech dinghies in Chatham Harbor — Jack Wood, Tech's Sailing Master, very kindly arranged to lend us four of the new plastic dinghies along with all of the roof rack equipment necessary to transport the boats in fine shape down to our hotel. We are further indebted to Jack for arranging to have Richard Pober, '59, spend the weekend with us as our Reunion Sailing Master.

Our sports activities included not only golf, softball, volley ball, and a variety of athletic (?) contests, but also swimming in the surprisingly warm Cape Cod waters. The afternoon festivities also featured a juicy, tasty clambake on the beach, complete with a troop of traveling photographers merrily snapping away with Polaroid cameras. The quartet who ate

in the appropriate one-minute intervals included Marty Levene, Dick Feingold '43, and Jim Hoey '43.

The formal Class picture was followed by the usual cocktail party, which included an unusual treat of a performance of Bob Rines' suite for two pianos, "LIFE AT M.I.T." The artists were the composer and Sandy Rosenblum. All agreed that it was elegantly appropriate music, most charmingly played. Bob then led the assembled revelers in group singing until banquet time. A quick rundown of the prizes and their solicitors is approximately as follows: DuBarry beauty kit, Sox and sport shirt, by Milt Platt; set of Mallware unbreakable dishes by Paul Hotte; General Electric electric blanket by Frank Staszkesy; water-ski tow rope kit by Trow Kennedy; Clipper-Craft sports jacket by Al Goldis; G.I. X-Ray Series by Dr. Martin Levene; model Sikorsky helicopters by Bob Curtis; Tap-Lite switches by George Schwartz; 30 quarts of Royal Triton motor oil by Al Dengler; plastic hobby kits by Bob Bloom; plastic placemats by Charlie Speas; many neckties by Elliott Friedman; replaceable bottle caps for everyone by Maurie Katz; plastic sponges in very large numbers by Monroe Brown; luminescent scales (rulers) also by Paul Hotte; lapel pins by Mac Kaplan; tie clips by Heinie Shaw; gold-filled key rings with fobs by Jim Stern; and many, many cans of "Dream-Whip" by Vincent Stumpp.

We announce with pride and pleasure that David Christison has been awarded a Sloan Fellowship entitling him to participate in the Executive Development program at M.I.T. Dave has been assistant director of the Technical Department of Socony Mobil Oil Company's Paulsboro Refinery. He has been with Socony Mobil ever since 1943, first in the Brooklyn, New York Laboratories and, since 1953, in Paulsboro, both in research work and in the Planning Section of the Refinery's Technical Department. In addition to his membership in the American Institute of Chemical Engineers, Dave has been active in fund-raising campaigns for the Boy Scouts, Red Cross, Y.M.C.A. and the American Cancer Society. The three Christisons will be living in Wellesley Hills for the twelve months' duration of the Sloan Fellowship program.

Also of note is the renomination by the Alumni Association of Charles H. Smith, Jr., for the position of Alumni member on the M.I.T. Corporation Visiting Committee for the Division of Sponsored Research.

The Society Page of the *Boston Globe* records the recent marriage of the former Lillian M. Fletcher to James E. Stinson of Huntington Park, Calif. The Stinsons spent their honeymoon in Hawaii, and are now living in Riviera, Calif.

It is with a heavy heart that we record the death of Stephen J. Farrington, Jr. He was the victim of a most unfortunate accident in a New York subway. We are indebted to Charlie Bossi for the following notes that will be particularly appreciated by Steve's many friends. After graduation, he joined the DeLaval Steam Turbine Company in Trenton, N.J., and

stayed with them until 1946, at which time he left to join his father in the S. J. Farrington Iron Works in Brooklyn. The family firm was a steel and iron-working shop, which handled merchant ship repairs and general ship maintenance work on those ships docked in the New York Harbor. In addition to overhauling pumps and material-handling gear, they fabricated various items such as steel hooks. In 1955, Steve joined Westinghouse and was with them until his death. He is survived by his widow, Anne, and their four-year-old son.

Our faithful correspondent, Alan Katzenstein, has also forwarded a note about William Desmond. Bill took graduate work at Columbia University, and then joined I.B.M. and is now head of one of their research divisions. After a year in Poughkeepsie, he has been transferred to New York City and will be living there with his wife, Corinne, and their new baby. An article in the Hartford, Connecticut *Times* records that Dr. Franklin Hutchinson recently gave a talk, "Effect of X-Rays on Man in Reference to Dental X-Ray Machines." The occasion was the regular meeting of the Hartford Society of Dental Hygiene. The United States Steel Corporation has announced the appointment of Bernard E. Ericson as assistant to vice-president-engineering of Pittsburgh Steamship Division. Bernard joined Pittsburgh Steamship immediately after graduation as an assistant in the Fleet Engineer's Office in Cleveland. From 1943 to 1946, he was in the Navy, serving as an assistant engineering officer at the 8th Naval District Headquarters in New Orleans. He then rejoined Pittsburgh Steamship as a technical assistant in the office of vice president-engineering. Mr. Ericson is a member of the Society of Naval Architects and Marine Engineers, and is a co-author of works on diesel and turbine repowering for Great Lakes vessels. The Ericsons and their two children reside in Westlake, Ohio, where he is active in civic and Boy Scout work. Lowell Thomas Brown has been elected to the Board of Directors of the American Association of Industrial Editors. Lowell is director of publications with W. S. Walker Advertising, Incorporated, and editor of the Allegheny Ludlum Steel Corporation magazine, *Steel Horizons*. Prior to his association with the Walker agency, he was Director of Publications Service with the Pittsburgh printing firm, William G. Johnston. He also served for three years as manager of publications with Dravo Corporation. Lowell is a member of the University Club of Pittsburgh, International Council of Industrial Editors, and the American Association of Industrial Editors. The Browns and their youngster are residents of Pittsburgh.

The second Alumni Officers' Conference in September was a wonderful opportunity to get together with Monroe Brown, Ed Campbell, Harvey Kram, Jack Sheetz and Bill Tallman. We were brought up to date on the latest in technical activities, student life and future plans of the Institute, and had a unique opportunity to see the effectiveness to which the Alumni Fund contributions have been, are being, and will be put.

Particular emphasis⁽²⁾ was placed, both by Dr. Killian and Dr. Bush, on the importance of selecting the most able high school graduates as students for M.I.T. and of giving them the finest possible technological training. The Institute salary structure was reviewed, and we were shocked to learn of the tremendous disparity, in some cases almost three to one, between industrial salary offers and actual faculty salaries paid to many, many individuals. We learned that the primary objectives of the Alumni Fund for the coming year are to provide greatly increased compensation for the outstanding faculty that Tech has, and also to provide an increasing amount of scholarship aid to the very promising students whose families are not in a position to pay the necessarily increasing Institute fees. It was pointed out that, even today, the tuition income barely covers half of the teaching expenses of the Institute. This biennial gathering is an excellent opportunity to get together with the many Educational Council members in our class, as well as our counterparts in neighboring classes. We look forward to seeing many more of you at the 1959 Conference.

We note here that William L. Schallert is now a professor, residing in Stillwater, Okla. In the same mail came an announcement of the promotion from commander to captain in the Navy of Ernest P. Abrahamson. Captain Abrahamson is now living in York Beach, Maine. We wish to record five international changes of address: Akbar F. Brinsmade from Caracas, Venezuela, to Charlotte, N.C.; Donald R. Casey from Orinda, Calif., to Riyadh, Saudi Arabia; Major Edward O. Jess from Westbrook, Maine to Stockholm, Sweden; William F. Keyes, Jr., from Arlington, Va., to Havana, Cuba, where he is working with the U. S. Bureau of Mines; and Charles R. Stempf from Harrison, New Jersey (which was his mailing address for Venezuela activities) to Mexico City.

It is perhaps most appropriate to record here that our 15th Reunion held the usual elections, which resulted in the following officers: President, Jerry Coe; First Vice-president and Class Agent, Charlie Speas; Second Vice-president, George Schwartz; *Assistant Secretary for the Midwest*, BOB KEATING, Explosives Division, Olin Mathieson Chemical Corporation, East Alton, Ill.; *Assistant Secretary for the Southwest*, ED EDMUNDS, Edmunds Chemical Company, 2200 Second Street, S.W., Albuquerque, N.M.; *Assistant Secretary for the Far West*, JACK QUINN, Zone 8200/65, Northrop Aircraft, Incorporated, Hawthorne, Calif. — *Secretary-Treasurer*, LOU ROSENBLUM, Photon, Incorporated, 58 Charles Street, Cambridge 41, Mass..

1943

The Second Alumni Officers' Conference at M.I.T. was held on September 6 and 7, an affair which impressed your Secretary quite a bit. The Institute today is extremely different from what it was during our years, not only in physical plant but most importantly in the approach to teaching and learning by re-

search. After some of the lectures a few of us wondered if F still equals MA. The events are covered elsewhere in this issue of *The Review*, so I won't go into detail. Present from our class were Bob Hewes, Registrar of Tech; Greg Gagarin; Jim Hoey; Frantz Kreider; Ray Richards; and Howie Bollinger. Howie, as some of you may know, is a patent attorney in New York, and he and I enjoyed comparing legal notes.

The June Alumni Day was pleasant, as usual, and gave me an opportunity to pick up some news items. Ed Czar is with the Saco Manufacturing Company, which manufactures wooden products. He has three children and lives in Kennebunk, Maine. Martin Winter was married in April to Ann Delanni of Jersey City, and the couple are living in Elmont, Long Island. Marty is the owner of Standard Ink and Color Company in Brooklyn. Ray Hahn of Larchmont, N.Y. was there. He has been with Union Carbide for 14 years, and likes his work very much. Ray travels quite a bit in conjunction with his hobby, which is taking color photos and then painting pictures from them. John Ward is another long distance runner, having been at the M.I.T. Servo Mechanism Laboratory for 12 years. John and Jackie live in Lexington, Mass., where they have three boys, the oldest in second grade. Others present were Ira Cruckshank, who is with General Electric in Manufacturing Services; Russ Bowen; Frank Dibble, who manufactures medical instruments; Sid Hall; Kemp Maples of Minneapolis Honeywell; Ray Richards; Ken Spencer; and George Glover, as well as our perennial President Hoey.

Frank Swenson received the degree of Doctor of Medicine last June from Western Reserve University, and deserves to receive our heartiest congratulations for this achievement. Frank started medical school right after our 10th Reunion; he lives in Akron, where his wife and a bunch of beautiful children are cheering him on through his medical career. Warren Foster acquired the Palmetto Paper Company in Ft. Lauderdale, Fla., last spring. Reuel Curtis is another of our classmates who has broadened his field, having received his law degree from Georgetown University with high honors last June. He plans to work with the government in Washington. Al Burrill has been appointed sales manager of High Voltage Engineering Corporation in Boston. He has been associated with Dr. Van de Graaff since 1939 in the development of the atom-smashers which his company manufactures.

William Sammons has been appointed assistant to the president of B-I-F Industries in Providence, R.I. Newton Steers, a government war student with our class, founded and is president of Atomic Development Mutual Fund, Incorporated, which invests in companies active in the atomic field. Arch Scurlock, who received his Master's degree with us, is president of Atlantic Research Corporation in Alexandria, Va., which specializes in rocket fuels, interior ballistics, gaseous combustion, and blast and shock phenomena.

In my July notes I wrote about Charlie

Gates' company in Denver, and somewhere along the line a decimal point moved and announced that they had 250 million feet of factory space. Sherm Sackheim picked it up and figured it out, and believe me, fellows, I'll be careful from now on. But it got some news from Sherm, who is with Maxwell Sackheim and Company, Incorporated, Advertising, on Madison Avenue in New York. He and Paula bought a house in New Rochelle recently, where they enjoy country living with their one year old son, Neil. Sherm wrote as follows on my math error: "According to my table of integrals, that's 45,000 square feet per employee—or 50 times the number of square feet as the Empire State Building—to say nothing of putting the Chicago Merchandise Mart to shame." He also wrote that the advertising business isn't what the popular novelists picture it to be—its actually hard (though fascinating) work. He'll tell us more at the 15th Reunion.

Which brings me to an interesting subject, namely, the 15th Reunion, which will begin on Friday, June 13, 1958, somewhere on Cape Cod. You'll be hearing about it shortly through the mails, however, so I won't go into detail about what is being planned. One thing is for sure, though, and that is our Class picture—Bert Picot has volunteered to do it again for us. Bert opened up a new color laboratory in Forest Hills, N.Y., recently, where he is equipped to handle large scale photography projects such as schools, colleges, company personnel identification, and other mass production projects. They handle the new Eastman Kodak color processes as well as standard black and white. He plans to take our gang in color as well as black and white next year.

William George Saunders, a classmate in Course XV, passed away last August in New Britain, Conn., after a long illness. He was in charge of production planning and control of the hardware division of the Stanley Works, and was very active in city and church affairs where he lived. The class has extended its deepest sympathy to his wife and two children who survive him.—RICHARD M. FEINGOLD, *Secretary*, 49 Pearl Street, Hartford 3, Conn.

1944

On September 6 and 7 at an Alumni conference at the Institute we had the pleasure of a small '44 get-together which included John Hull, Ken Scheid, Marty King, Spence Schilling, Mal Kispert, and Lee Eagleton.

Lee came up from Philadelphia where he is teaching chemical engineering at the University of Pennsylvania. Prior to this Lee had been employed at Rohm and Haas after taking a doctorate at Yale. He still devotes time at Rohm and Haas doing consulting work on special problems that he was involved in before shifting to the academic life. While in Cambridge, Lee had an evening to spend with Norm Becker, who has returned to this locality. The last I heard from Norm he was living in Turkey, with his wife, a Wellesley grad, and teaching engineering there.

Since that last report he returned to the States, taught for a while at the Institute, and then moved on to National Research Company. Norm, wife, and family are residing in Concord, Mass. While traveling to San Juan, Lee and his wife stopped off in Havana to visit with Doc and Serena Docal. Doc is still with U. S. Rubber and is top man there. Lee reports—to see Havana, see it with Docal.

Spence Schilling was in from Ambler, Pa., where he lives with his wife and three children. For the past 10 years, Spence has been a salesman for American Smelting handling non-ferrous metals, covering Pennsylvania.

John Hull has embarked on a new career since I saw him last at the reunion in Lenox, Mass. At that time he was doing advertising for an instrument concern, but shortly thereafter, he and his brother bought out the Standard Press Company of Philadelphia and began operating it as Hull-Standard. John tells me they have redesigned the line of compression and transfer presses incorporating their own control systems and currently have a new model coming out that should be a leader in its field. Sales have been good in the country with many presses also being sold abroad. John also passes along a word of wisdom to you would-be entrepreneurs: "It ain't no bed of roses."

Ken Scheid and Minnette have a baby girl to report at this writing. It is their first child and Ken says it is a wonderful beginning. Ken has a very unique apartment overlooking Marblehead Harbor from the top of a shipyard. As a matter of fact, I can tell when Ken is home by peering between the shipyard booms from my ketch which is moored a short distance from Ken's landing.

Swinging on another mooring a short distance away is Doug Banus. Doug's cutter, *Bold Venture*, houses his wife, Grace, and four salty sons as deckhands. A few weeks ago I sailed into Gloucester behind the breakwater and when I anchored Doug came aboard and we swapped yarns for several hours. Doug holds a doctorate and is working at Metal Hydrides in Beverly on high-energy fuels. However, Doug confides he prefers cruising the Maine coast to his daily labors—and I am in complete accord.

Marty King also showed up in Cambridge and promises a full report from Paterson, N.J., giving the whereabouts and doings of our '44 members with whom he has contact. To keep his days occupied Marty contracts glass and hardware installations on construction jobs in that area. Jim Weaver has come up with a published paper that is very interesting reading. The paper written in conjunction with another M.I.T. man '51, is entitled "Our Next Capital Venture." Jim is assistant director of Atlas Powder Company's economical evaluation department which passes judgment on proposed investments and explores investment evaluation techniques.

About a month ago a gentleman came into our plant to buy a piece of surplus machinery we had for sale. After the equipment was inspected and he decided to buy I found it was to be shipped to the Dominican Republic. I casually asked

if he knew Andy Freitas and it so happened they were very close friends. Andy is married, has three children, and is top man for Esso in his country. Nice going Andy! I saw Mal Kispert briefly at the conference and although Mal is a bit shy, I have it from good sources that, besides being Vice-chancellor, Mal has recently been handed the assignment of all personnel at the Institute. Mal moved from Waban a short time ago and now you will find him living in Dover, Mass. — BURTON BROMFIELD, *Secretary*, 72 Woodchester Drive, Weston 93, Mass.

1945

Another bachelor has fallen by the wayside! On Saturday, July 1, Eleanor Jean Nagel of Pittsburgh became the bride of Tom Stephenson who at the time, so I am told, was one of Pittsburgh's most eligible men. I know you all wish this late starter all the little troubles (two legged) in the world. Not to be outdone by a fellow Phi Gam, Vince Butler of San Francisco telephoned in late May to announce his engagement to Barbara Charleston, a recent University of California graduate. The wedding was scheduled for Saturday, September 14, so I trust the newlyweds will have returned from their Honolulu wedding trip before these notes hit the press. It was quite ironic that Dave Trageser should send me, about 10 days after Vince's phone call, a picture from the local San Francisco paper captioned "Bachelors came for a quiet lunch; they ended up at a fashion show in the Garden Court." Business must be good for Vince, as the day he called he had just cornered this country's castor oil supply as I recall!

While discussing Fenway's fraternity row you all remember Chi Phi's Bob Symonette — Nassau's unofficial mayor and yacht yard entrepreneur. Bobby, as the New York papers call him, served as one of the watch officers on Bill Snait's *Figaro* on the Newport-Spain race this June, and I suspect Bob stayed aboard for the many international cruising races about the English Channel and North Sea this summer. Oh, for the life of a sailor — ex bell bottom blues, however. Isaac Goodbar of Riverside Drive, Manhattan is doing research design and consultation in the illuminating engineering field for Edison Price and Richard Kelly here in New York. he reported early in the summer. On August 7, C. W. Smalzel became planning and design officer for the Quincy Private Yard Shipbuilding District which includes vessel contracts at Fore River and Cataumet, Mass., as well as the old Herreshaff yard in my old town of Bristol, R.I. Commander Smalzel is, of course, an old XIII-A man, and from what the Quincy *Patriot-Ledger* says he and his family are pleased to be back in beantown as Mrs. Smalzel is an old Needham and Duxbury girl.

Another XIII-A boy in the news is Frank Graziano who was elected secretary of Monarch Machine Tool Company in Sidney, Ohio, in early May. Frank joined Monarch in 1955 after completing a tour in the Machinery Branch at BuShips; other Navy duties after Tech were various tours at East Coast Naval Ship-

yards. Back to Phi Gams again for just a moment; I often read of Hank Rudkin's exploits in his Bandini as he cops various prizes in the sports car classics hereabouts. Hank is associated with his mother, the maker of Pepperidge Farm breads and pastries. At the June Regents Meeting at the University of Michigan Albert N. Dingle was appointed associate professor of meteorology. After receiving a bachelor's and master's in Agricultural Engineering in '39 and '40 in the mid-west, Dr. Dingle obtained a master's and doctor's degree in meteorology at M.I.T. in 1945 and 1947. He has been active in teaching and research in this field since that time. Richard R. Martin of Poughkeepsie, N.Y., became this spring the first graduate of the I.B.M.-Syracuse University Graduate Program in the Hudson River Valley. Dick is manager of the Equipment Development Department of I.B.M.'s Military Products Division in Kingston, New York. I was surprised to learn from I.B.M.'s news release that Dick was another of the lucky few recalled during the Korean situation. Dick, a native of Weston, Mass., is the father of two boys, Richard D., 6, and Clayton N., 4. In May Archbishop Richard J. Cushing of Boston appointed Reverend James M. Gibbons as chaplain of the Medford Squadron of the Civil Air Patrol. Father Gibbons, senior assistant at St. James Church, was a graduate in meteorology while serving as an Air Force Officer.

In mid August Bill McKay, our class Alumni Council representative, reported briefly as follows on last June's off-year reunion attendees. Commander Ed Malloy is still with BuShips activities. Bob Maglathlin is now in business for himself as president of a consulting electronics firm. Tom McNamara is still with Data-matic. Warren Miller of Buffalo had just flown in from Rome, Italy, the day before after a six week vacation. Jay W. Forrester is still at M.I.T. Bill McKay endured summer bachelorhood with American Air Filter as Betty and the kids soaked up the sun at the Cape. Bill indicated he had seen James Gurney several times at Craigville Beach. Jim is now in Boston after many years with Esso Research in New Jersey. Waite Stephenson of Germany reported to Bill that he and Mary were the proud recipients of W.H.S., 3d, on June 3 at seven pounds, three ounces.

I suppose I should mention our Class President, Dave Trageser, as you shall all be getting a letter from him sometime soon; on second thought I know I should mention him as he was here for dinner in September — this was the annual meeting of the American Chemical Society here in New York. After seven years with Dewey and Almy, Dave joined High Voltage Engineering Corporation in June doing technical sales work. For the most part Dave will be developing the use of high voltage generators for process work in the chemical industry. High Voltage is a relatively small company, about 10 years old, stemming from some of Professor Trump's ideas of the Electrical Engineering Department. High Voltage makes generators for therapeutic work, radiography of castings, physics research,

sterilization of drugs and packages, and for election processing in the chemical field. It is an unlisted stock and appears to be, so Dave tells me, a good investment.

Last week end I had the good fortune to be a guest of the Institute at the Second Alumni Officers' Conference; I will not vouch for the education received but we did have our usual good time. Representing our class at the head of the list was Professor Jay W. Forrester, now in the School of Industrial Management, who gave one of the principal addresses Saturday morning on "Systems Technology and Management." In addition, Ed Vivian of the Chemical Engineering Department was represented. Representatives of 1945 other than myself were: Dave Flood, still doing antenna research and development in Boston; Chuck Bulk of Fairchild Products in Rochester, N.Y.; Robert E. Bud Wilson who is still with General Electric working on the development of aircraft control systems in Schenectady, N.Y.; all Alumni Regional Solicitation Co-Chairmen; and, of course, Class Agent Al Oxenham, a special sales representative of Pittsburgh Coal and Coke. Other tea and crumpeters known to many were: John Hull, president of 10-44 now in manufacturing business with his brother just outside of Philadelphia; Ken Scheid 10-44 acting secretary of his Class and active in personnel work in the Boston area; Don Hurter and John Maynard'46; Dick Mooney and Art Schwartz, now '47 but originally with our class; John T. Reid'48, also a former'45er of the American Society of Mechanical Engineers in New York; John Kirkpatrick'48, manager of Arthur D. Little's Chicago office; Ken Brock'48, local Boston advertising man and eligible bachelor; and Tom Toohy, president of '49, of I.B.M. in New York, who gave a few of us a guided tour in and about Tech's new I.B.M. 704 Computer.

With the U.S. mails and your consciences willing, I shall return soon. — CLINTON H. SPRINGER, *Secretary*, Firemen's Mutual Insurance Company, 420 Lexington Avenue, New York 17, N.Y.

1946

Although this is being written in July it won't be read until November, so the first order of business is to say that the Maynards had a wonderful summer and hope everyone else did also. As of this writing we in New England have had no rain for so long that our lawns, as a result of complete water restrictions, look worse than the Sahara Desert; but, hopefully, by November the damage will be covered by a merciful blanket of snow. Speaking of disasters (my poor lawn), constant readers of this ramble through the woods will recall a rash promise published last year to the effect that if 50 or more people should back up their desire for an up-to-date class directory with cold hard cash, \$1.00 per head, we would endeavor to publish such an aid to the traveling salesman. Unfortunately for the project a grand total of 11 people accepted the offer. Therefore, everyone's money was returned and the project was called off. As I mentioned in the letters

accompanying the returned checks, I have what I think is the most up-to-date file of addresses of our Class in existence, and everyone is cordially invited to use it, via the mails, to locate long-lost friends.

In the last few months we have received news clippings and other information from the Alumni Office, so let's take care of those first. Salvatore J. Pappalardo, who formerly lived in Lawrence, Mass., has been appointed merchandising services supervisor of the Polymer Chemicals Division of W. R. Grace and Company, New York. He now lives in Upper Montclair, N.J. A news release from Bruce Payne and Associates states: "George S. Ahmuty, former assistant manager of industrial engineering for Sylvania Electric Company, New York, N.Y., has joined Bruce Payne and Associates, Incorporated, management consultants with headquarters in Westport, Conn. As a senior associate, Mr. Ahmuty will function primarily in the industrial engineering area. Mr. Ahmuty has 10 years of practical industrial engineering experience in industry. He has been senior industrial engineer for Sylvania's Emporium, Pa., plant, and supervisor of industrial engineering at the company's Warren, Pa., plant." George and his wife and two children live at 1 Stirrup Lane, Levittown, N.Y.

A clipping from a Spanish magazine, in Spanish (I know about 15 words of French, no Spanish, and therefore cannot give a complete account of the matter) tells of the latest work of Jose M. Bosch Aymerich, Jose is an architect in Barcelona, Spain, and lives at Paseo De Gracia 30-22 in that city. The article contains pictures of models of Jose's design of a large hotel, and when it is built in Barcelona it will certainly be a magnificent addition to that city.

Commander Alexander S. Goodfellow, who makes his home at 2605 Davis Avenue, Alexandria, Va., was recently graduated from the National War College in Washington. David R. Herwitz, who has been serving as assistant professor of law, has recently been promoted to the position of professor of law at Harvard University Law School. Dave was in private practice of law in Boston for three years before joining the Harvard Law School faculty in 1954. Earlier, he was a law clerk in the Tax Court of the United States in Washington, and a teaching fellow at the Harvard Law School. After graduating from M.I.T. he received his bachelor of law degree *magna cum laude* in 1949 from Harvard. At Harvard, he was on the board of editors of the *Harvard Law Review*. Dave lives at 1572 Massachusetts Avenue, Cambridge 38, Mass. William R. Lindsay, who has been production superintendent of the Excelsior Printing Company, North Adams, Mass., has been named to the newly-created post of assistant production manager of The Courier-Journal and Louisville Times Company, Louisville, Ky.

Among those attending Alumni Day at M.I.T. last June were William E. Becker, Mr. and Mrs. Donald E. Burke, Mr. and Mrs. Alexander Kananovich, Mr. and Mrs. Mason I. Lappin, Mrs. Margaret Florencourt Mann, Frank M. Ver-

zuh, and Edwin H. (for Happy bachelor) Tebbetts.

Norman and Irene Sas and daughter Wendy live at 750 Kappock Street, Riverdale, N.Y. Norm is president of Tudor Metal Products Corporation of 176 Johnson Street, Brooklyn 1, N.Y.; is board member and officer of Toy Manufacturers of the United States, and keeps fit by skiing, presently holding the job of chairman of the New York Athletic Club Skiers. We received a nice letter from Dave Black. "Since I last wrote you I have left Connecticut Hard Rubber to start a business of my own. While casting about to get started I received a first-rate offer from the Harris Transducer Corporation of Woodbury, Conn. Since I couldn't see fit to refuse, no matter how much I wanted a business of my own, you'll find me as production manager for Harris effective April 22, 1957." Received a brief note from Wes Goodnow. Wes still makes his home at F 9 Country Club Manor, York, Pa. The Ernest Buckmans proudly announce the arrival of their third child, John. Ernie is a salesman for the investment counsel and economic consultant firm of Lionel D. Edie and Company, Incorporated, Pittsburgh, Pa. He lives at 270 Grant Street, Sewickley, Pa. John W. Taylor sends us a card to let us know that he and Nancy have finished building their own house and are now located at 4302 Wickford Road, Baltimore 10, Md. Also received a nice letter from Roger Sonnabend announcing that Elsa and he are the proud parents of a son, Alan, born in May. He adds, "There is nothing very much new businesswise except the fact that Hotel Corporation (of which Roger is vice-president and general manager) is going into the motor hotel field in a big way, has acquired the Kenmore and Braemore Hotels in Boston, and is very expansion-minded with construction of new hotels in prospect in such cities as New Orleans, Beverly Hills, Mexico City, and London." If that is not much new businesswise, I'd hate to be named Hilton when Roger gets going. Speaking of the Hotel Corporation of America, there was a recent article in the Boston newspapers announcing the appointment of Jim Craig as vice-president of that corporation. Congratulations, Jim.

George and Barbara Grainger and their two daughters live at 3320 Hopi Place, San Diego 17, Calif. After graduating from M.I.T., George received his B.A. in 1947 from University of California at Los Angeles, his M.S. from Notre Dame in 1949; was a teaching and research fellow at Notre Dame until 1954, at which time he joined Convair Astronautics, a division of General Dynamics in San Diego where he is now a senior research engineer, conducting basic mathematical research. He is also active as secretary of the Convair Toastmasters Club. Malcolm Gordon earned his M.D. degree from Boston University, married a Wellesley girl, and then went to Puerto Rico where he is now president and general manager of Gordonshire Knitting Mills, Incorporated, a family business. He and Mona have three children and live in Cayey, Puerto Rico, with a post office address of Box 1096, KM 53 P.R. Route

1, Cayey, Puerto Rico. Malcolm has been active in local affairs as president of the local Red Cross drive.

Captain Walter R. Milliken, after graduating from West Point, taught mathematics at Colorado University while working on his M.S. in applied mathematics, saw service in the Far East, and is now an instructor in the Mathematics Department of the U.S. Air Force Academy. The Millikens and son live at 1067 Tucson Street, Aurora, Colo. The Louis H. Martins and Polly, Lee, Robert, and Bill all live at 28 Valley Road, Concord, Mass. After a few years in the Navy, Louis worked at the M.I.T. Servomechanism Laboratory and recently left there to become senior electronics engineer in research and development for the Research and Advanced Development Division of Avco in Boston.

John H. Fleming writes that he missed last year's reunion because of the arrival of his second son, Daniel. John has recently changed his job from assistant service manager to sales-service representative to the Potash Field for the Coal Machinery Division of Joy Manufacturing Company, 507 Park Avenue, Carlsbad, N.M. William J. Harrington is with the Worthington Corporation, a general line sales organization located in Milwaukee. The Harringtons live at 710 E. Carlisle Avenue, Milwaukee 17, Wis. Bob and Marianne Nelson have been adding on to their house at South Maine Street, Sherborn, Mass., and when through they will have a very comfortable three bedroom home. They have one son, George, and were expecting another addition at the last census. Bob is production control superintendent for the Keleket Division of Tracerlab, Incorporated, where they manufacture medical X-ray equipment and accessories. Bob is still active in the Naval Reserve, being a member of Naval Reserve Intelligence Division 1-1 in Boston.

Next month we hope to continue this column with more up-to-date news of the Class of 1946. If you haven't dropped us a line in the last year, why not take a minute right now to do so? We'd like to learn of your new address, your new children, your wife, or even your first million. — JOHN A. MAYNARD, *Secretary*, 15 Cabot Street, Winchester, Mass.

1947

This is to be my swan song. Except perhaps for an occasional guest column, I shall be turning the secretarial reins over to Art Schwartz. But Art has very graciously granted me a month's reprieve of my banishment from these columns. After 10 years at the typewriter (except for one, when Jim Phillips filled in as Acting Secretary), I felt I just had to prepare this one last effort to report the doings at our magnificent 10th Reunion. Well, it was just great — a wee bit thin in ranks, perhaps, but sparkling with enthusiasm and fun. Pretty nearly everyone who came arrived at the Curtis Hotel in Lenox on Friday evening, June 7. I had hoped to be there first with the registration material and all, but Parker and Jane Symmes were already exploring, and surprised me in the midst of my prepara-

tions. I was making out their name tags when Dick and Gina O'Donnell came along, and after that people just seemed to flood in.

The natural meeting place was the cocktail lounge, and I soon abandoned the registration table to its own devices. Jerry and Bobbie Cox couldn't join us in the early — that is, pre-dinner — happy session, as they had to see their tots, Nancy and Jerry, fed and tucked in first. At dinner, I shared a table with Milt and Nan Robins and Hunter Bennett. The Robinses have six children, but they left them all home for the week end. Post-prandial activities again centered about the cocktail lounge. Bob and Margie Lombard, Dave Clapp, George and Nancy Katz, Rufe Franklin, John Kellett, and Mike and Virginia Rosar added to the manic atmosphere.

Saturday dawned bright and mild, and, after a surprisingly early breakfast considering the extent of the previous evening's activities, we scattered for athletics. I joined Phil and Fran Solomon, Hunter Bennett, and Marty and Janice Phillips in a wild six-some at golf (we soon broke up into two three-somes). Norm and Jane Holland and Arnold and June Judson settled for badminton, and others of the adventurous amongst us went horseback riding in the Berkshire hills. Lunch was a hot-dog-and-beer cook-out delightfully served at poolside at the hotel. Harl and Lois Aldrich, who had left their five to attend the reunion, and bachelor Israel Cramer were table companions. By this time pretty nearly everyone was there. Alex and Adele Pastuhov, Hugh and Lorry Flomenhoft (they had left Rensselaer Polytechnic Institute reunion to join us), Sid and Edna Grob, Art Schwartz, Bob and Claire Seidler and Jim Phillips (Jane was ill) were indulging their appetites. Also Ed and Jackie Kane, who were among the earlier arrivals; Byron and Nancy Lutman, Don Van Greenby, Mike and Lee Daly, Tom and Sue McEvoy and Arnold and Vera Varner swelled the crowd. Honors had to go, however, to John and Trudy Ebersberger, who, with their four children — Wendy, Dale, John, Jr., and Jill — were the largest single contribution to the reunion. Traveling the farthest were Fred Heuchling from Chicago, the Lutmans from Detroit, the Coxes from St. Louis, and Hunter Bennett from West Virginia.

After lunch we were treated to a fashion show, and then cavalcaded out the local softball field for a 25-a-side game. The hordes of people rushing on and off the field at the end of each half inning, and the antics of winning pitcher (my team) Fred Heuchling kept the atmosphere one of near hysteria for all of us. The beer cans liberally sprinkled along the base paths and in the outfield added a certain suspense to the quality of play. The final score is not a matter of public record, but each team claimed victory, and retired happily. (Our team *really* won.) We reconvened for cocktails at the hotel, and then sat down to the Class Banquet. Outgoing President Norm Holland was in the chair for the brief meeting following dinner at which elections of officers for the next five years were held. Art Schwartz is the new Secretary, as

noted above; George Katz, Treasurer; Jim Phillips has once again accepted the arduous duties of Class Agent; and the gavel was given me. Following these mild formalities we watched some Technology films, including *The Social Beaver*, and then resumed festivities with a dance.

Massachusetts laws being what they are, we had a fairly early evening of it. Sunday was no less kind to us in weather than was Saturday. A spring day in the Berkshires is hard to beat, and we couldn't have been blessed with any finer weather. Breakfast was followed by church for some, tennis or golf for others. We then assembled for our last meal together — a very elegantly served buffet, once again at poolside — and the weekend drew to an all too rapid close. Everyone seemed delighted with the venue and many put in their bids for our 15th at the same place. This speaks well for the work that Reunion Committee members, George Katz, and earlier Phil Jones, did in making the hotel arrangements.

The following day, Monday, was of course Alumni Day. Business commitments called me out of town, so unfortunately I cannot give a first-hand report of our class activities there, but Art Schwartz, already prepping for his secretarial duties, supplied me with lists of names and some comments. Attending both the luncheon and dinner were Jim and Arlene Prigoff, Milt and Nan Robins and Jack Rizika and Frankie Shipp who only last week (mid-September) became man and wife. Norm Holland and Arnold and Vera Varner were able to manage the luncheon only, while Bob and Mary Aquadro, Stan and Lois Cobb (from Martinsville, Va.), Dick Turner and his wife, Buck Cramer, Ed Rosenberg, Jim and Jane Phillips, Alex Ward, Harry and Betty Sherman, Marty Phillips, and Fred Heuchling all were at the dinner at Rockwell Cage. As Art points out, the total attendance for both Reunion Week End and Alumni Day activities is the very respectable figure of 41 classmates, and with families included, the attendance was 77. As always, the circumstances in many instances prevented the figure from rising very high. Phil Jones who first chaired the committee was in California at his new job. Al Richardson, another committee member, was kept away by illness in the family. Two of my colleagues at Allied Research Associates, Incorporated — Dave Knodel and Art Roberts — had their definite plans to attend the reunion quashed by our opening an office in Albuquerque, N.M., to which they were assigned as project engineer and assistant, respectively, just before the June activities. Alex Giltinan was also finalizing arrangements when, as his post card states: "We were just getting built up with the reunion letters and now the doctor says to keep the bride home. No traveling. So with regrets we won't be seeing you in Lenox." Bruce Dodd was also prevented from coming, and his letter of last April gives the reason: "I regret that I am unable to attend the 10th reunion festivities this year. In 1955 I participated in the polio epidemic and have been pretty laid up ever since. Hope all goes well and that all reunion plans are a terrific success."

The occasion of the 10th prompted many who could not participate to write lengthy letters of recent personal history and activities. One such letter came from Ken Marshall, who is now Vice-president of A. S. Aloe Company in St. Louis, and who writes: "I guess I waited just about long enough to write and tell you that I am really sorry that I will not be back for the reunion. I guess I kept hoping there would be a way to work this out but St. Louis is still pretty far from Massachusetts, and this finds me at a very busy time of the year. I had a nice personal note from Jud the other day and I certainly appreciated his thinking of me. It is a shame that while our company does business nearly throughout the United States, about the only area we are not in is New England, as I would welcome the chance to get together with you and bring ourselves up to date. Maybe this will be changed one of these days and then we can try to work it out. Just for the record the last 10 years have found me spending nine of them here in St. Louis in the hospital and surgical supply distributing business. Not being a slacker, I have two children, a girl five and boy two and a half, so I am busy doing my part in populating the world. From time to time I run into some of the people we have known who are working in St. Louis or passing through, but there haven't been very many recently. My very best to all of you and please remember me to my many friends — have a very successful reunion."

Norm Holland passed on a letter which he received from Wally Lack which goes: "Thanks for your note on the Alumni Fund letter. It seems impossible that ten years have gone by. A lot has happened since then. Just a brief recap — after doing some engineering work, I got an M.S. degree in 1950 from Columbia University School of Business, majoring in accounting. After working for a year or so for a small public accounting firm, I went in with my father and brother, both C.P.A.'s. In 1952 I got my C.P.A. certificate; in 1953 I made a lot of fairly long trips and ended up marrying a girl from Philadelphia; in 1954 I became a partner of Lack and Lack, C.P.A.'s; in 1955 our first child was born. Last but not least, on March 14, 1957 my wife Carolyn gave birth to twin girls — 6 weeks premature, but healthy. They were scheduled for arrival after the tax season, naturally. It appears that we moved into a house just in time, considering the additional \$1200 in exemptions. Much as we'd like to come to the reunion, there is nobody with whom we can leave two young ladies who are still getting 5 or 6 feedings a day and crying in between. Believe me, we could stand a vacation! (I almost said 'change', but we get plenty of them.) So it is sad to say but we'll have to wait a while on that drink. Give Claude and all the other boys my regards. I've lost contact with most of you guys — don't even know where you're living. However, if you get to New York City, give me a buzz and we'll get together. Our office is in the Chrysler Building."

And then there were letters from people who were going to come and then, unfortunately, never showed up. Jack Lehmann writes: "I would like very much to attend our 10th reunion at the Hotel Curtis in

Lenox, Mass. I would like to reserve a twin-bedded room and bath for my wife and me for June 8 and 9. Please let me know if you want a check for a deposit and please send me schedule of activities. I look forward to seeing you and all the boys after ten years." And Hazel Andrews, Carrol Andrews' wife, writes from Poughkeepsie: "With this 10th year wing ding not far away, and plans made to go up to Lenox for the day, it suddenly dawned on me that I didn't know what to plan to wear. Now isn't that a shame! Debbie asked us not to leave her for the week end, so being as it is, just a two hour drive we'll plan to come home sometime before they get up in the morning. We have engaged a nursemaid to care for the two imps Saturday." And finally, to complete the record, I should like to list the names of those who contributed their \$10.00 class dues since the last column. They are: Stan Cobb, Mike Daly, Rufe Franklin, Louis Goodman, Bob Lombard, Dick O'Donnell, and Arnold Varner. So that briefly is the history of our 10th Reunion. Art Schwartz was still in the swing of things a week later, however, and wrote that he had a small get-together with a group in New York. Included were Hy and Rosalie Fisher who were just on their way to Hawaii where Hy has a final year of residency training in internal medicine to complete at the Queens Hospital. Also Allan Kay, '45, and Ruth and Bob Gould '45, were in the party.

Now for more prosaic news. A card from Bud Lasko informs us that last year he transferred to Emerson Electrical Manufacturing Company as Assistant Standards Manager. He "brought along a broken leg in a toe-to-hip cast which he acquired on a skiing trip to Canada — but not while skiing — tobogganing on a very small hill!" Oliver Axtell is still with the Celanese Corporation, but has been transferred by the company from Clarkwood, Texas, to their research laboratories in Summit, N.J., where he has been given the title of Group Leader in the Process Engineering Section of Ballistics Research and Development. By way of various company news releases, we have word that Ed Forth, formerly Vice-president in charge of manufacturing for DeWalt, Incorporated, a subsidiary of American Machine and Foundry Company, has been named Vice-president and general manager of the AMF Cycle Company in Little Rock, Ark. Carl Dengler has been promoted to Research Engineer of the Yerkes Research Laboratory in Buffalo, New York. Carl joined the company as a chemical engineer at the Arlington, N.J., plastics laboratory upon graduation. He later worked at the Du Pont Experimental Station in Wilmington, and returned to the Institute where he received the degree of Doctor of Science in chemical engineering in 1953. He then rejoined Du Pont in Wilmington, and went to Buffalo in 1955 as a research supervisor. Oliver Hamilton has joined the Budd Company as a Corporate Economist. Barry Brown has been appointed assistant production superintendent responsible for fine chemicals at the Hooker Electrochemical Company in Niagara Falls, N.Y. Barry has been with Hooker since graduation and has steadily advanced in the company organization.

Ben Ranan has been elected Vice-president of Artistic Manufacturing Company, Incorporated, Stamford, Conn. Ben was previously general manager of Great Lakes Stamping and Manufacturing Company of Toledo, Ohio, and Chief Industrial Engineer of Sonotone Corporation, Elmsford, N.Y. Cliff Corbett has been appointed assistant to the manager, Drier, Oven and Lehr Division, Selas Corporation of America in Dresher, Pa.

Russ Johnston's book, *Mechanics for Engineers* has been published by McGraw-Hill. Russ was Associate Professor of Civil Engineering at Lehigh University, when he co-authored the book with Professor F. P. Beer. Karol Hujsak has been promoted to lieutenant colonel in the Army Reserve. In civilian life he is a mechanical engineer for Stanolind Company. As noted in an earlier column, Walter Pierce has won a First Award in the national "Homes for Better Living" contest sponsored by the American Institute of Architects, *House and Home* and *Better Homes and Gardens* magazines, and National Broadcasting Co. The prize-winning house is at Peacock Farms, Lexington, Mass. We repeat this here because the honor has since been recorded in *Time* magazine. In a series of institutional advertisements in various professional magazines, the Grumman Aircraft Corporation is featuring discussions of their research programs by several of their top engineers. It was a pleasant surprise, therefore, to notice my old thesis partner, Dick Scheuing, now chief of External Aerodynamics in the Research Department at Grumman, writing on aerodynamic research in the first of these series that appeared both in *Aeronautical Engineering Review* and *Aviation Week*.

In the personal column there is the marriage of Jim Van Meter to Ruth Aileen Armstrong of Manchester, Conn., to report. Jim is now a research engineer in the Aeronautical Division of the Minneapolis-Honeywell Regulator Company. Bob and Jen Warner announce the arrival of their first son and second child, James Henry, on June 2, 1957. It is my sad duty to report the deaths of two classmates — Victor Ragni on March 23, 1957 and Robert M. Singer. We have received no further information. In closing let me express my personal appreciation to the many, many of you who have helped with this column with your letters, cards and announcements. It is these contributions which really write the column, and I trust you will give Art Schwartz the same measure of cooperation I have been so fortunate to enjoy over the past 10 years. — CLAUDE W. BRENNER, *President*, 100 Memorial Drive, Cambridge 42, Mass. ARTHUR SCHWARTZ, *Secretary*, 176 South Harrison Street, East Orange, New Jersey.

1950

The amount of news copy coming from your Secretary these past years has not been up to par. Needless to say, there are many reasons for this lack of news under the Class of '50 news column, but one of the major reasons is that most of our classmates do not like to write in about themselves. During the first four or five years after graduation I usually received

enough news clippings to fill this column with engagements, marriages and news of people in the service. Lately, however, the news clippings have been down to a bare minimum and letters from classmates down to an even barer minimum. The result has been fewer and fewer columns of news for our Class. Bob Mann and I are quite worried about this situation and we are striving to do something about it. I will have more details in next month's issue, but basically, we are trying to set up regional Class reporters and/or secretaries who would be responsible for their areas (New York, Chicago, Philadelphia, and so forth). These regional secretaries would forward to me from their immediate areas information about '50 men; and we hope that by staggering regional reports, we would have sufficient news and the Class of '50 will have a column in each and every copy of the Technology Review.

Following a two-year hitch in the Air Force, Bill Enders joined the Aeronca Manufacturing Corporation in Middletown, Ohio. Then this March, Bill, his wife, and young Greg (two years) moved back to the Boston area. They are now living in Newton Lower Falls and Bill is with the Airborne Systems Laboratory, Radio Corporation of America, as senior project member, technical staff.

The Alan Bates family now consists of wife, son Douglas, and daughter Stephanie. Latest addition was son, born December 23, 1955. They moved to Wilmington, Del., about a year ago from Summit, N.J. This was a job change from Celanese Corporation to Atlas Powder Company, where Al does project evaluation work in the Economic Evaluation Department. Dick Holmgren resigned from United States Public Health Service last year, and he and his wife left Alaska and moved to Berkeley, Calif. He attended the graduate school at the University of California in sanitary engineering this past year; and, after receiving his M.S., he will be back at work again in either California or Alaska. Ken Sawyer is presently assigned to Fort Monmouth, N.J., as a commanding officer of a signal team. Len Smith was discharged from the Air Force in April after four years (two in Japan). He is working for Union Carbide. He is married and has two children, both girls, but is hoping for a son. Doug Yerger is serving out his third year of a three-year hitch in the Navy at New Orleans. He was previously stationed at Orange, Texas.

Roy Hale wants to bring us up to date on the Hale household. "Linda Suzanne joined us August 17 of last year, and so we now have three children. Adrienne will be five in November, and David will be two in July. I notice that this daughter, son, series puts us in the same class with the Harry Raabs. I'll be here in Dayton until September. I'm in graduate school at the Air Force Institute of Technology and will receive my M.S. in aeronautical engineering in August. After that, I don't know where I'll be assigned. Ralph Johnston is stationed here in Dayton."

Bob and Pat Snedeker had their first child, a boy, William Audley, on December 17, 1956. Joan and Bris Brisbin had their second son, James Cooke, on Febru-

ary 16, 1957. Charles A. Magarian has been promoted to group leader of the industrial resins group at Monsanto Chemical Company's Plastics Division, it was announced by Harold W. Mohrman, director of research. Mr. Magarian, a native of Boston, received an S.B. in chemical engineering from M.I.T. He joined Monsanto in 1950 as a technical trainee in the Control Laboratories. In 1951 he was promoted to section leader in the Control Laboratory. In 1952 he was a member of the start-up production team at the Port Plastics operation. He transferred to the Industrial Resins Laboratory in research in 1953, where he has served until this most recent promotion. Mr. Magarian is a member of the American Institute of Chemical Engineers and chairman of the Advisory Committee for the town of Hampden. He is married to the former Mary Elizabeth Hartford of Belmont, and they make their home in Hampden. They have three children.

Hollis Gray has been elected to vice-president of the Technology Instrument Corporation of Acton. Joining the engineering staff after graduation, he later became a sales engineer and advanced to engineering sales manager and a member of the board of directors of the Corporation. Hollis, his wife, Marie, and their two sons are living in Lexington, Mass.

George Nez is making news in Denver where he has been city planning director for some time. Under a program adopted by the administration of Denver's Mayor, Bill Nicholson, Nez and other city officials are running guided tours to areas of the city they feel need more public attention and understanding. The activity is designed to sell citizens on the necessity for a city plan to spend \$63,000,000 during the next six years on the public improvement program.

Paul Ahearn, working with Corporal C. F. Frye at the Watertown Arsenal, has discovered a method for producing low cost titanium. The material, commonly referred to as the "wonder metal," is as strong as steel, about forty per cent lighter in weight, and highly resistant to corrosion. The demand for this material has increased steadily in the past four years, but it is outside the reach of the average consumer because of its relatively high cost. The new process which uses low-cost material will permit widespread application for machine uses, chemical and oil industries, and a variety of military applications. It may be that titanium will become a common household term as the cost is reduced by this revolutionary process.

Dick Ahern is now a professor at the new School of Architecture at the Kent State University.

Daniel R. Mason has joined the firm of John Diebold and Associates, Incorporated. He is manager of Data Processing Installation Division of this firm of management consultants, which specializes in the business application of automatic data processing systems. Mr. Mason has had an extraordinarily wide range of experience with the application of computers to business and industry. In the early pioneering years of business application of data processing equipment, he was successful in planning and installing the

first electronic computers to be used in industry for billing, payroll, labor distribution, mortgage loan accounting, and audit. Later, Mr. Mason extended the application of automatic data processing to an extremely large variety of problems. Upon receiving a M.S. degree from Tech in '50, Mr. Mason joined I.B.M. as its New England applied science representative. In 1952 he became manager of the Mathematical Planning Group and worked closely with the Engineering Department of I.B.M. in the logical design of the Type 650 Magnetic Drum Data Processing Machine, completed in July, 1953. This machine has been the "electronic workhorse" of I.B.M., with the 500th machine being installed in late 1956, and well over 500 more still on order. As manager of I.B.M.'s Scientific Computing Center at its home office in New York City, Mr. Mason guided the center in processing several hundred different applications from well over a hundred different companies on a Type 701 system. In 1955, a Type 702 system and a Type 650 system were added to the Center, and in early 1956 the 701 was replaced with a Type 704. At this time, Mr. Mason became assistant to the director of the Applied Science Division of I.B.M. In this capacity he was responsible for all four of I.B.M.'s Computing Centers, and the countrywide recruiting and training of I.B.M.'s applied science representatives.

Mr. Mason was also given the responsibility of setting up 12 additional 650 Data Processing Centers, and one additional 704 Center between June and December, 1956. Mr. Mason is married and has two boys, ages five and seven. He and his wife reside at Sea Cliff, Long Island.

Marriages in the news include that of Naomi Suconick to Stanley Chaikind on March 24, 1957, in Brooklyn, N.Y. Paul Cooper and Frances Bennett said "I do" in New York in February. Paul left Bell Telephone Laboratories to do research and work for a Ph.D. at Stanford University. Mary Haines Varies and Paul Cummings, Jr., were wed in Boston on April 27; and Emily Weston and John Frankovich were married in the First Unitarian Church, Chestnut Hill, in November. Cynthia Logan and Robert Haass were made man and wife last November in St. Luke's Episcopal Church in Montclair, N.J. They are making their home in Fort Lee, N.J., and Bob is employed by Lever Brothers Company in Edgewater, N.J.

Priscilla Louise Bird became the bride of Lawson Parks Harris in March at the Center Congregational Church in Manchester, Conn. They are making their home in Cambridge, Mass., to be close to Tech where both of them are employed. Betsy Goodrich Morton and George Elliot Krusen were married on February 2, 1957, at the Winchester Unitarian Church. George is now associated with Bay State Abrasive Products Company.

As for news about your truly, I am still very happily employed by the Park Construction Company, Incorporated, here in Boston. As of this writing we have over \$6,000,000 in schools and hospitals under construction in the Boston area, and I have the job of coordinating and expediting these projects so that everything is running smoothly. There are times

when you wonder if anything can go smoothly, but when a million dollar school or hospital is completed and turned over to the owners, there is a sense of pride in the fact that many kinds of materials fit together to produce a finished product of which everyone is proud. For our home life in Bedford, our fourth child, Christopher Anthony, arrived on June 13, 1957. That makes two boys and two girls, and together with our newly acquired dog, (a two-year-old boxer) Ruth's days are mighty busy.

Let's hope that our new regional secretaries help to fill our column this year. Also, the rest of you can drop us a post card telling us of your wife, children, job, and so forth.

I hope this next year is a little newswier for me, a little more prosperous for you, and a lot happier for all of us. — JOHN T. WEAVER, *Secretary*, 24 Notre Dame Road, Bedford, Mass.

1951

Summer generally brings heat to Cambridge, but that season just as generally brings Tech Alumni to Cambridge for various reasons. One very good reason is Alumni Day, which gathered to the campus Fred Bumpus, Arthur Compton and wife, Dick Howe, Charles Orne, Orlo Powell, Edith Roberts, and Milt Trageser and wife. Al Odian was at Tech the entire summer working with the M.I.T. project, which is sponsored by the National Science Foundation, to overhaul completely the traditional course of physics in high school. As one of many endeavors in the project, Al worked on designing physics experiments that can be done easily and inexpensively by using such equipment as coathangers and paper clips. Al returned in the fall to his post in the physics department at the University of Illinois. Tony Pappas spent the summer at the Institute as one of 25 science teachers on Westinghouse fellowships. Tony returned to teaching duties at the Acton-Boxborough Regional High School. Paul Gibson visited at the Institute on a day away from his duties in the packaging design division of Proctor and Gamble. Carl Schumacher and Fred Lehmann attended an M.I.T. conference for Alumni Officers. Fred brought his four-month-old offspring and wife back East for a visit from Kansas City. Other births we have heard of include Ruth Phyllis, second child of Ronnie and Sheila Silver, born July 25. Ron tells us, "big brother Michael, aged two and a half, is as proud as any parent could be." Chuck Haeuser makes a double announcement of the birth of his fourth child (and third boy), Anthony Ahlgren, and of the birth of his own practice as an architect in Milwaukee. Since graduation, Chuck has worked in Texas, Milwaukee, and Germany. His work in Germany involved research into German pre-fabrication and the modern church architecture of Germany.

Summer is the time for promotions and appointments, too. Ralph Devir was made vice president of Conti and Donahue Incorporated, a Lynn, Mass., construction company. Earlier Ralph had worked for the T. Lovenger Company of New Bedford, the Massachusetts Department of

Mental Health, and the Aberthaw Construction Company of Boston. Gerald Rose has been appointed a patent solicitor in the development and patent department of Standard Oil (Indiana) at Chicago. Another Esso appointment makes Pete Silverston a member of the petroleum development division of the Esso Research and Engineering Company. Pete, by the way, holds a doctorate in chemical engineering from the Technische Hochschule of Munich. I.B.M. has placed Sander Rubin in charge of engineering planning for the Type 705 computer in the Poughkeepsie Product Development Laboratory. Peter Spatz is in the same laboratory and was recently appointed manager of the 700-Series. The U. S. Army announced the assignment of Major Ernest Graves, Jr., to Fort Belvoir and the Engineer Research and Development Laboratories. Dave Schoeffel has joined the research department of Monsanto's Plastics Division at Springfield, Mass. Marv Grossman has been named Sales Manager of the High Fidelity Division of H. H. Scott, Incorporated, of Cambridge. Mary has the responsibility for all sales, advertising, and marketing of their high fidelity products. Mark Nelkin recently moved from Schenectady to San Diego, where he is working in reactor physics for the General Atomic Division of General Dynamics. Carroll White has been appointed Sales Manager of the Container Department at Dewey and Almy in Cambridge. Wendell Batchelder, a lieutenant in the Naval Reserve, won his Flight Surgeon Wings last June at Pensacola. He is now serving at the Naval Air Station at Norfolk, Va.

Summer, particularly June, is the time for weddings. Peter Keller was married last June 18 to Barbara Hoxie of Lexington, Mass. Peter is now working with Dynamics Research Corporation. A recent announcement tells of the engagement of Dave Grossman to Hanna Kirchheimer of Silver Springs, Md. Tom Rebarchak has earned his S.M. in chemical engineering from evening studies at Carnegie Institute of Technology. Albert Cooksen has been cited for his role in the research and development of the surface-to-surface missile Lacrosse. He was director of the project, which was done under Army contract.

Any of us would admit readily that our classmates become involved in unusual ventures. Arnaud de Vitry d'Avaucourt may, according to a newspaper feature story, become involved in the construction of a tunnel to cross the English Channel. Companies have been forming for such a project ever since 1875, but apparently the odds are good that something will finally be done about it. If all goes well for him, Arnaud and his New York company, Technical Studies, Incorporated, will handle some part of the work.

A note from Daniel Maxfield tells us that since we last heard from him he has completed work for his M.S. in Civil Engineering degree at Purdue and was elected to Tau Beta Pi while there. The Army promoted him to captain in March of 1956 and later sent him to France as an installation engineer. His second son, Karl, was born on October 10, 1956, at Chambley, France. He is now assigned to the position of Chief, Planning Divi-

sion, DSC/Installations, Headquarters 12th Air Force, Raustein, Germany. He'd like to hear from Alumni and military engineers in the Kaiserlauten area. — RICHARD W. WILLARD, *Secretary*, Box 105, Littleton, Mass. ROBERT S. GOOCH, *Assistant Secretary*, Freese and Nichols, 407 Danciger Building, Fort Worth 2, Texas.

1952

The Fifth Reunion of the Class of 1952 seems like a good place to start this first column. About 175 of us met down at the Hotel Mayflower in Plymouth, Mass., for a really fine weekend complete with cocktail party, dinner, dancing, clambake, and assorted athletics. Compliments to Nick Melissas and the committee who did a fine job. Bob Briber was re-elected Class President, and yours truly, Dana Ferguson, Class Secretary. Stan Sydney remains Class Agent, and Stan Buchin will replace Hal Lawrence in the '52 seat on the Alumni Council. Highlights at the Reunion included Nick Melissas copping the prize for the oldest bachelor present; Manuel Liberman coming all the way from Columbia, S. A., and being presented with a map, flashlight, and compass to help him find his way back; the humorous (to some) contest to see who had the least hair on top (and we won't give any finalists' names); and the reading of the partial results of the Class questionnaire. Gus Rath is tabulating these and when we have them complete we'll be running them in the column.

Alumni Day followed right on the heels of Reunion, and '52 was well represented with the Richard Aquadros, the Robert Bribers, the Kenneth Fawcetts, Irwin Grossman, the John Gyulveszis, Robert Johnson, Harry Kradjian, Harris Lang, the Charles Mathews, and Richard Rubino present.

There have been several weddings since the last column, and I'll try and catch them up to date. On April 27 at Appleton Memorial Chapel at Harvard, Wiltrud Richter and John Mott-Smith were married. John is with the Cambridge Research Center. In May Joseph Alibrandi and Lambertha Araskiewicz were married in Lowell; they are living in Lexington near where Joe is working at Raytheon. In June William George Degnan and Ann Morganroth were married in Bridgeport, Conn., where they will live. Bill is an engineer with Sikorsky. Joyce Maunder married John P. Ward in Cambridge in July. Alexander Schilling and Barbara Jane Hall were married in Wellesley and are living in California. Stanley Buchin and Jacqueline Chase were married in Lebanon, Conn., on September 14 and will live in Allston, Mass. Stan is data processing engineer at Bay State Abrasive Products Company in Westboro.

On the academic battlefields, Gustave Rath was awarded his Ph.D. from Ohio State and is now working for I.B.M. in Poughkeepsie, N.Y. He and Chloe are living nearby in Carmel. Chuck Schwartz writes that he has just been appointed assistant professor of physics at Stanford University. He and Sylvia have just been there a year, and have now had their second child, a boy. Zoltan Lucas received

his Doctor of Medicine from Johns Hopkins and is interning at Barnes Hospital, Washington University School of Medicine, St. Louis, Mo. Norman Weston picked up his Ph.D. at Tech and is now with Du Pont Polychemicals Department Research Division in Wilmington. U. S. Air Force Captain Richard Wingerson and his wife and children just returned from Japan and will shortly go to Dayton, Ohio, where Captain Wingerson will attend the Air Force Institute of Technology at Wright-Patterson Air Force Base. Captain Harold Larson, who previously graduated from Loyola Dental School, has just finished the medical orientation course at Army Medical Service School, Fort Sam Houston, Texas.

Maurice Davidson seems to be having one of the most interesting jobs connected with International Geophysical Year. He is Lamont scientist in charge of Project Iceskate at the North Pole and became the celebrated participant in a ham radio call from the North Pole to the South Pole, one of two such conversations known to have taken place directly. Maury expects to be up there until the water freezes up again and planes can land. Didn't sound bad with dial phones, hot and cold running water, and movies every night.

Another interesting '52er's achievement is that of the new "Tunaburger." Developed by Dr. Yaichi Aikawa, a Food Technologist, for sale under the brand name "Sealady," the tunaburger is ham-red in color, has delicious flavor, is high in protein, and low in calories. Solves the Friday lunch problem. The product is possible due to a new sugar curing process.

In the business world, Phillip H. Smith has been appointed director of purchases at LaSalle Steel Company, Chicago. Bernard Alperin has been appointed a development engineer at General Electric Foundry Department, Applied Research and Development Laboratories. Charles Ehlers has been appointed product manager for bottle crown compounds at Dewey and Almy Chemical, Division of W. R. Grace and Company. Jim Dorsey, wife Nancy, and son David Brian are living in Lexington and Jim is a research engineer for Ace Electronics in Somerville. H. Edward Jans has left Olin Mathieson Chemicals and has joined Bruce Payne and Associates in Westport, Conn., as a senior associate. Lastly, I have left Revere Copper and Brass Incorporated, New York City, and am now with Bay State Abrasive Products Company in Westboro, Mass., as a sales engineer. And so this first column comes to a close with the plea to drop a line, any of you who have any news or items of interest. — DANA M. FERGUSON, *Secretary*, Bay State Abrasive Products Company, Westboro, Mass.

1953

This summer my wife and I have finally gotten settled in quarters which will be called home for the next two or three years. As a result of some busy and confused months last spring, I misplaced some of the letters and notes from you. I believe I have located all of them, so this issue will serve to pull together some

of the gaps in past reports to you.

John Ehrenfeld received his Sc.D. degree from M.I.T. in June. John is married to the former Myna Ansin, a graduate of Wheaton College. The last item on John's note reads, "expecting a baby." A card from John Batter tells of an addition to his family in May — the "first addition," says John, so he's probably planning on a few more! He is located in Burlington, Mass., at Technical Operations, Incorporated. Bob Ryder has finished his tour with the Navy and evidently decided to stay at his port of debarkation; he's an associate engineer in the office of Clyde C. Kennedy in San Francisco.

Gabriel Pitta has had quite a bit of traveling as a field engineer for Hughes Aircraft Corporation. My last report indicates that he has worked at Elgin Air Force Base in Florida and before that in the Far East in Japan. A couple of our group have decided to work in the sales and investments fields. J. R. (Bob) O'Donnell has a position with Zenith Plastics Company in Philadelphia. Bob continues in his note: "had a get-together with Carl Swanson (married, 10-month-old daughter, Transistor Division, Philco) and Bob Almgren (product control manager of Viking Tool of New Jersey)." Bob Gellert's card reads: "left Seattle and Boeing Airplane Company. Starting work at the United Continental Corporation in the field of investments."

I would like to note a few items some of which may involve repetition of previous notes. Normally, I date each item as I enter it into the Class Notes; but as mentioned earlier, the handling of certain items was poorly organized last year. Russell Kidder has a position as market analyst with the Du Pont Company and a wife, Judy Robinson (William and Mary '53). Jim Mast is a little bit ahead of John Ehrenfeld in the additions to the family department. His wife and he have come up with a first son but it's their third child. I heard a report that Len Ehrman was to be married. As yet, I have heard nothing from him telling me when the marriage occurred. Daniel Lippman tells us that he is working on this idea of springs for autos using compressed air in a rubber bellows. Somewhere I recall reading that busses with air springs were being produced. Dan's doing his work at the Goodyear Tire and Rubber Company in Akron, Ohio.

Final notes for this month's column include letters from Marshal Merriam and Jul Greenebaum. Marshal was married shortly after graduation and the family has grown to four with two boys, aged three years and one-and-one-half years. Marshal's Army time was spent in Korea, and since his discharge he has been at the physics graduate school at Carnegie Institute of Technology. Marsh goes on in his letter to tell about: Gene Maier, who is also at Carnegie Tech; Charlie Fenn, who, after a year at Harvard, is teaching high school mathematics on Long Island; Cliff McLain "complete with wife and family, was building missiles at Chrysler at last report"; and Adam Bincer and Caroline Littlejohn have both had papers on nuclear physics published in the *Physical Review*.

Jul Greenebaum wrote his letter upon

finishing his course at the Harvard Business School in June. He's working at the J. B. Webb Company in Detroit, Mich. And, as is usual with Jul's letters, it's plumb full of news which I think I will save as a little insurance for next month's column. Please note the new address. Thanks. — VINSON W. BRONSON, JR., *Secretary*, 47 Edgemere Road, Quincy, Mass.

1954

Another summer has come and gone and once again I find myself trying to transcribe tasty tidbits of tantalizing tattle. Weddings still seem to be a favorite recreation for members of the class. Among the more or less recently married is John Kiley who walked down the aisle with Nancy Goodwin in West Roxbury, Mass., in June. The Kileys are now living in Arlington, Mass. Ed Hunger and Maureen Donnelly took the plunge in Lynn, Mass., in June, and are now living in Hartford, Conn. At about the same time, Earle Crocker married Ruth Burgess in Woonsocket, R. I., and Joe Kozol married Renee Bruckner in Boston. Phil Perry was a member of the cast on May 11 when John Graumann and Louise Boyer were married in West Hartford, Conn. The Graumanns have set up housekeeping in West Hartford. On June 29, Will Fiske pronounced his final vows with Elizabeth Hersey in Portland, Maine. Al Ward had a supporting role in the production. The Fiskes are now settled in New York City. A little further north in Marblehead, Mass., Bill Romig married Joan Dutton in April. Fred Zanella, himself recently married, and Rog Griffin were involved in that one. The Romigs are now in Dearborn, Mich. Rog apparently caught the bug from Bill and Fred, and he and Elaine Knese entered into holy matrimony in St. Louis on October 5. Dick Hayes, Art Jacob, and yours truly were participants. The Griffins are now based in Salem, Mass. And Jerry Cohen was married in the Boston area in September, but I don't have any particulars. Jerry is currently in Paris on a Fulbright Grant.

Several people have reported by mail over the summer. Sam Losh writes that he has completed his Air Force tour of duty and is holed up in Los Angeles, where he is working for the Ramo-Wooldridge Company in the communications division. He passed through Las Vegas on his way to California, but claims that he is only two dollars poorer as a result. This is due to modern economic theories no doubt. Sam reports that Ken Heist and Avron Spector are with him at Ramo-Wooldridge, and that Don Cassidy is also in the area. A postcard from George Schwenk informs us that he has acquired a master's degree in physics from the University of California, and is now working in operations analysis at the University of Michigan. Rumor has it that George is actually working on a mathematics degree at Michigan. Bob Lait sends word that he has parted company with the Air Force and is working in the Special Products Division of Monsanto Chemical Company in Everett, Mass. Bob managed to get to Europe for 40 days while on leave from the Air Force. Bob also reports that Howie Schiff is married

and prosperous on Long Island, and that Al Walz is working in Erie, Pa. Dave Wones writes, with fiery pen, that I owe him a correction. It seems that he is not at Carnegie Institute of Technology, as previously reported, but **is** doing experimental work on his thesis at the Geophysical Laboratory of the Carnegie Institute of Washington, D.C. Correction noted, and my apologies, Dave. Dave, by the way, is the first Vannevar Bush Fellow at M.I.T. Dave sends word that Charlie Burnham, Larry Holmes, George Perry, and Ron Lovasz have finished their Air Force tours at Wright-Patterson Air Base. Charlie is back at M.I.T., pushing toward a Ph.D. in geology. Larry has returned to Harvard and his history books. George is at M.I.T. in economics, and Ron is at Tech in food technology. Dave also reports that Dick Walker married Carol Pope in Brattleboro, Vt., a year ago, and is now with the Air Force in Bossier City, La.

A few odds and ends gleaned from various sources include the item that Mike O'Neill is working at the Perkin-Elmer Corporation in Norwalk, Conn. Mike recently captured third prize in the annual technical paper competition of the Connecticut Section of the American Institute of Electrical Engineers. Bill Sudduth is with the Federal Telecommunications Laboratories in Nutley, N.J., and has been one of the guiding lights there in the development of the Tacan automatic reporting and data link, an electronic system for increasing speed and safety in air navigation. Tom Knapp is still at Harvard, working in the Mathematics Department. Bob Anslow and Camillo Ghiron are at Fort McClellan, Ala. Fred Zappala was married recently, but the only details I have give his wife's name as Theresa. Fred is currently studying at the Harvard Business School. Dave Robbins is a teaching assistant in civil engineering at M.I.T., where he is working on an M.S. Pete Quint is an engineer with the Marine Instruments Engineering Department of the Marine Division of Sperry Gyroscope Company. And finally we note that among those attending the Alumni Day festivities at Tech last June were Jose Ferrara, Vic Pesek, Bill Ryer, Carl Schmid, Bob Wagner and Ben Winslow. Keep the news coming. — EDWIN G. EIGEL, JR., *Secretary*, 3654 Flora Place, St. Louis 10, Mo.

1955

Hello again! It really is gratifying to write the first column of the year when the supply of news is large so that we don't have to fabricate *too much*! News of the military seems to be of primary importance. Please note the new address of your Eskimo correspondent below; translated, all that means is that Denny is in Thule, Greenland, enjoying 24 hours per day of sunshine now, but anticipating 24 hours per day of darkness come the winter. Of course, the aurora borealis is supposed to be spectacular this year for the International Geophysical Year, but I imagine that Denny will be a very good correspondent; so if anyone wants a pen pal . . . Ed Somody was assigned to White Sands Proving Ground, New Mexico, Army Garrison early in the summer after

completing his basic training at Fort Lewis, Washington. He was working in Milwaukee with Cutler Hammer, Incorporated, before his Army days began. Word comes from Stuttgart, Germany, that Roger Mackay has received an award for improving the efficiency in the Army station there by the introduction of a new form—and he wasn't even in Course XVI! Reg Griffith is now in Germany with the Army also, and Warren and Charlotte Lattof expect to return to Chicago this fall, having completed their tour of duty there. Bill Antoine was at Fort Bliss, Texas at last report.

We received a nice letter from Dale Madden, who escaped from the Army Chemical Center in Maryland in June and is now back at Tech, working for his master's degree in X-A. John McNeilly was also at A.C.C. and was planning to continue there after returning to civilian life. Rumor has it that he was planning to marry an Edgewood, Md., girl in August. Dick and Emma DiBona were last heard of from Baltimore, where Dick was serving with the Counter Intelligence Corps (does this mean that they're opposed to intelligence?). At Aberdeen Proving Ground Al and Mary Hauser have gotten Al's two-year stretch with the Army underway, and Norry Hersey and Joe Saliba, the latter fresh out of Harvard Business School, have begun their six-months' stints there. Down Fort McClellan way they're still having reunions. Les Lee has now committed himself to another two years in the Army in the "bomb racket"; so he should be on hand to greet the newcomers for a while. The latest addition is Carl Hess, who came with his wife Barbara and baby daughter Cynthia. Tom Cantrell is also there, taking a six months' leave from law school to get his obligations to Uncle Sam out of the way. News from the Air Force and the Navy is relatively scarce, but we do hear that Bob Buntschuh is at Wright-Patterson Air Force Base and is living in Medway, Ohio. And Pete Peterson was expecting to report to the Public Works Department at the Naval Academy in Annapolis on September 1, after completing a tour of duty at the Marine Corps Auxiliary Air Station in Beaufort, S.C. Big news with the Petersons was the arrival of Stephen DuWayne last December.

The Don Welshes also have a new son, Donald, Jr.; they are living in Lexington, Mass., and Don is with Sylvania. Also in the Boston area, as a matter of fact at M.I.T., are the Ken Holfords and two young 'uns, who are living at Westgate. Ken is working on his master's degree. Jim Ecker, who is now married and living in Walpole, plans to return to Tech this fall for his master's degree. Paul Chludzinski is still living in Chelsea and is working for General Electric in Lynn. Bob Cutkosky was married several months ago and is now in Washington, D.C. The hearts and flowers department has been right busy, what with June and all that. On the first day of June Dick Neergaard and Lois Jean Gardner of Lenox, Mass., were married. Lois received her degree in architecture from the Rhode Island School of Design. She and Dick are now living in Elizabeth, N.J. On June 8, Bill Price was married in Merchantville, N.J., to Jo Anne

Reid Clark. Jo Anne attended Colby and Bill, M.I.T. before both graduated from Syracuse University. Also on June 8, the wedding of Ed Ehrlich and Janet Lawrence in Rochester, N.Y., was the occasion of quite a Tech gathering. '55'ers on hand included Sea McGown, Jim Ecker, and Bob Greene with their wives. Janet is a graduate nurse from Johns Hopkins Hospital. Ed is now working for the Civil Service at Aberdeen Proving Ground. Ed Gore was married on June 15 to Suzanne Martin of North Andover and Wheelock College. The Gores are now living in Bay-side, N.Y., while Ed completes work on his master's degree at Columbia. Dan Brown and Louise Razin of Malden were married in late June, and they are now living in Revere. Dan is working on his doctorate at Tech, and Louise is a senior at Simmons. Also in late June Bob Schwartz and Nadine Shanler of Boston were married in the M.I.T. Chapel. Nadine graduated from State Teachers College in Boston. The Schwartzes are now living in Minneapolis, where Bob is working for his doctorate at the University of Minnesota. Pete Pratt finally claimed Jane Baker of Seattle and Smith as his bride in July. Congratulations to all you people!

The lone engagement news comes from Pete Toohy, who enthusiastically informs us that he expects to marry Jane Sullivan, Wellesley '56, of Worcester in January. Pete graduated from Harvard Business School in June, then spent a brief time with Shiel Chemical Corporation in New York City before reporting to Fort Dix for his six months. He plans to be back with Shell around December. John Wing is also at Fort Dix on the same program as Pete, but running several weeks behind him. Our friendly competitors in the newsletter field, the Daves Nasatir and Brooks, continue to shower us with much appreciated news items. The Brookses are now living in Washington, D.C., during Dave's six months at Fort Belvoir, Virginia. The Nasatirs were planning to return to California in the fall when last heard from. Many thanks to all who have written! And do write again! And let's hear from some of you other jokers who haven't written! —MISS DELL LANIER, *Secretary*, 3110 Morrison Avenue, Tampa 9, Fla. 2ND LIEUTENANT LABAN D. SHAPIRO, *Assistant Secretary*, A03047883, U. S. A. Signal Ionosphere Station, A. P. O. 23, New York, N.Y.

1956

Vacation is over and it will take a couple of articles to catch up.

First we will start back in June with Alumni Day where this class was conspicuous — by its absence. Robert Frederick Santos, James Lynn, and myself were the only registered members but various other classmates were seen acting as guides. Event of the day was the dedication of the Compton Laboratories, a real plush bit of education equipment. The evening was highlighted by a steak dinner and a concert by the Boston Pops in Kresge Auditorium. This was a unique program, for the Pops has seldom given a concert outside its own facilities in the Boston area; it was televised by WGBH. All in all you missed a great time.

At the end of May plans were announced for the Du Pont Athletic Center to be built in memory of one of our classmates. The athletic facilities are to be co-ordinated around the Cage, the newly acquired armory, and the proposed Du Pont building. The new building will be constructed between the armory and the proposed student union. The new building will include the Athletic Association offices, squash courts, wrestling rooms, visiting team dormitory space, and faculty locker space. New Du Pont tennis courts will be constructed on Briggs Field between Baker and Burton.

Alumni donations to the 1957 Fund set an all time high and I was gratified to see a late response by this class. Maybe we can not give much but let us give in numbers. I hear that there may even be a pay-as-you-go plan afoot. Pledge at the beginning of the year and meet the easy time payments thereafter. (No money down.)

In June I received news of the death of Ralph Gelman in the crash of a private plane in New City, New York.

In June Joseph Huber rejoined our class. Joe entered with us as a freshman but elected to be a VI-A graduate. Having completed his schooling he is working for Goodyear Aircraft.

Arthur Frank writes from the University of Pennsylvania Biochemistry Graduate School to deplore the lack of mention of those in graduate school. Arty's brother, Stuart, is in medical school at New York University. Robert Scher is doing graduate work at Tech. Nelo Sekler Nussenbaum is working for his doctorate at the Institute. Robert Heath studied in Europe last year under an award known as the "Dankstipendium" and will return to graduate school at Tech this year.

Mr. Bryden has apparently become embroiled with his thesis at McGill because I do not have the promised expose on the city of Montreal.

Weddings, hoot mon! easy boys. Yours truly had the honor of being best man at Guy Spencer's wedding in June to Leslie Harriet Bendslev of Wellesley. Other ceremonies united: Lloyd Beckett to Ruth Agnes Cahill of Medford in June; Peter Bulkeley to Jeannette Anne Letendre of Cambridge in April; Paul Lempel to Frances Cooperman of Willimantic, Conn., in June; Albert Morrison to Mary Stewart of Weston in June; Harold Ness to Magda Mary Molnar of Santa Monica, Calif., in June; John Pierce to Lois Muriel Ericson of Braintree in June; and Kenneth Stevenson to Carol Elaine Clark of Westerfield, Conn., in June. Paul Cianci became engaged to Josephine Angela Vesquez of West Hartford, Conn., in June.

Many of our group in the service have finished their training and are heading overseas as evidenced by the crop of P.O. numbers in New York and San Francisco. Richard Carlson is in the Civil Engineering Corps at the Naval station in Seattle, Washington. Major Thomas Eggers is at the Armament Center at Eglin Air Force Base, Fla. Joseph Goodwill is in the Pacific with Army Ordnance. Allen Klibanoff is at Fort McClellan, Ala. John Merkl is at Mc-

Clellan Air Force Base, Calif. Thomas Nelson is at Fort Bliss, Texas. Raymond Peck is stationed in Tokyo with the Army. George Luhmann is at Wright-Patterson Air Force Base, Ohio.

One of the most inspiring sights of Alumni Day was a gentleman 93 years young enjoying the 70th anniversary of his graduation from Tech. I am proud to be joining his family next year and hope to watch him celebrate his 75th. My hat is off to you, Oscar Nutter.

Much remains to be covered but we are late this month. Happy Thanksgiving. — BRUCE B. BREDEHÖFT, *Secretary*, 1528 Dial Court, Springfield, Illinois. M. PHILIP BRYDEN, *Assistant Secretary*, 3512 Shuter Street, Montreal, Quebec, Canada.

1957

After graduation, marriages and summer jobs seemed to be in order. On the summer job side Bernie Cooper worked for Ramo-Wooldridge in their electronics research laboratory at Los Angeles. John Crews and Jim Alstrom served as electrical engineers for aircraft companies: John with Glenn Martin in Denver and Jim with Boeing in Wichita. The chemical industry had its share as Edwin Arnold joined Olin Mathieson in West Monroe, La., and Ben Chertok worked for the Nuclear Development Corporation in White Plains. Electrometallurgical Company (a Division of Union Carbide)

in Niagara Falls claimed Ron Enstrom in metallurgy and Stanley Clark as a development engineer. Stan will stay on until January, 1958, when Uncle Sam beckons. Out in Carlsbad, N.M., Tom Goldstick worked for Southwest Potash Corporation, while in Kenville, N.J., Robert Berg joined the Hercules Powder Company as a Laboratory Operator.

Further summer jobs: George Bohlig with Minnesota Mining and Manufacturing Company in St. Paul as process engineer; Henry Cutler with General Electric in Boston as application engineer; Robert Batchelder with Perini Corporation, Masena, N.Y. (St. Lawrence Seaway) as construction engineer; Paul Ammann with Stone and Webster, Boston, as engineering aide; William Doughty with B.F. Goodrich, Watertown, as research engineer; Preston Durrill with Esso, Baton Rouge; and William Adam with Baker and Adam, Portland, Maine. Ricardo (Pancho) Gonzalez took a vacation; Dick Blieden applied theoretical physics to the free flight of the golf ball; Art Schultz visited Havana then joined the Linde Division of Union Carbide in New York, where he made economic surveys. Roger Yaseen embarked on a trip around the world; Rog expects to complete his trip in roughly 76 days.

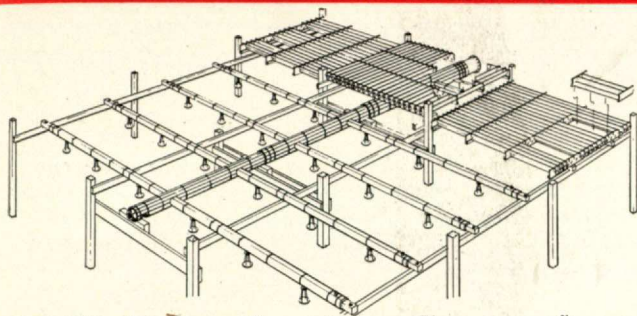
Marriages: Ira Skalet was wed in Boston last June to Elinore Rosenberg. The couple went to Bermuda for their honey-

moon and have taken up residence in Irvington-on-Hudson, N.Y. Ira is production manager at the Skalet Manufacturing Company. I had the pleasure of attending the June wedding of Gary Dischel to Judith Mund of Baltimore. Ron Kintisch was one of the ushers and others in attendance included Michael Brenner, Harry Flagg, David Bloomfield, and Elliot Wolk. The Phi Kappas turned out in force for the wedding of Eugene Hartman to Carole Anne Ketting of South Norwalk last June. Richard Sparapany was best man while David Bradley and Robert LaFlamme ushered. The couple will make their home in Los Angeles where Eugene is employed with the Bechtel Corporation. Top honors for the first post-graduation wedding go to Stewart Crawford who married Doris Young of Belmont on June 8.

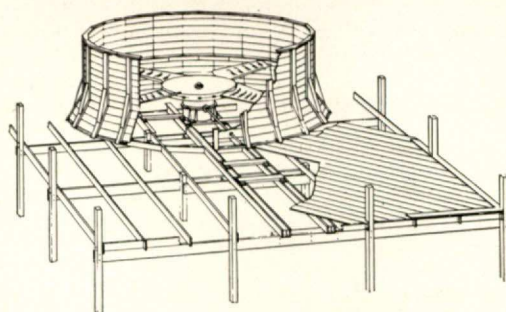
News of the Stork Market: To Harry and Ellie Salesky, a boy, a big one, several weeks after graduation.

Your response to my questionnaire was extraordinarily gratifying (in excess of 300 replies received to date). No, co-eds, I didn't mean to infer that you had to enter military service. '57 was fully represented at the recent Alumni Officer's Conference at M.I.T. by Hank Salzhauser, Ed Roberts and yours truly. Congratulations to Ed, who was selected as our Class Agent by the Alumni Association. Keep writing. — ALAN M. MAY, *Secretary*, 55 East End Avenue, New York 28, N.Y.

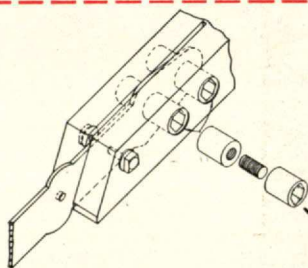
The new IMPROVED Fluor "FPA" Cooling Tower your best DESIGN buy because...



NEW Distributing System* Completely non-corrosive... header and laterals of redwood stave construction banded with stainless steel... nozzles of porcelain and stainless steel. All headers and laterals are provided with cleanout valves and plugs for flushing during tower operation.



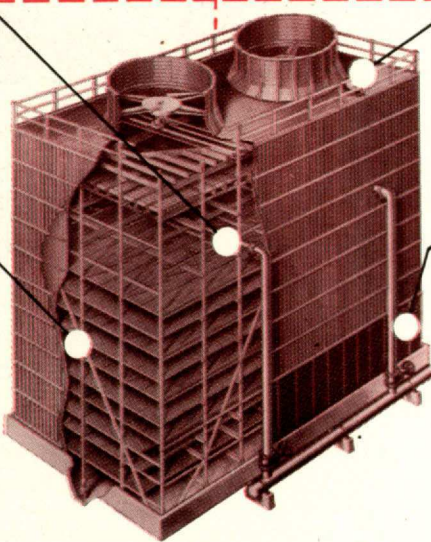
NEW Fan Deck and Stack Diagonal decking, blocking and stress strips form a structural diaphragm which distributes live loads—wind, vibration—uniformly to all bracing. New stack has stress strip around entire periphery.



NEW Joint Connectors*

Unique round-headed socket nuts present a greater bearing surface to the wood than does bolt shank... allowable value per connector is increased. This together with the heavier gusset plate design, effectively multiplies each joint's allowable load.

**Patent applied for.*



NEW Offset Louvers...

Set three feet out from side, yet require no greater basin dimensions. Air is drawn into tower with less pressure drop. Improvement in winter operation... icing problem formerly associated with louvers adjacent to tower columns eliminated.

The new improved Fluor Model "FPA" Induced Draft Cooling Tower is an ideal balance between standardized construction and a tailor-made tower. It reflects Fluor Products' concerted effort—in the face of rising costs—to maintain and improve quality for lowest "first" cost. It retains the time-proven design features of previous models of Fluor Induced Draft Counter-flow Towers... plus new design features that deliver maximum

service and performance from all components. For optimum cooling capacity per square foot of ground area... for a combination of the best in structural design and quality-proven mechanical equipment at the most favorable price... and for new design features which ensure year-in, year-out, trouble-free service, look first at Fluor's "FPA" Tower—your "best design buy" in cooling towers. Inquiries for details are invited.

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...an even Quieter Silent Service

Engineer at Electric Boat Division uses G-R Vibration Meter and Vibration Analyzer to determine degree of dynamic balance of new Vaneaxial Blower. Sound-Level Meter and Octave-Band Noise Analyzer (furthest from operator) measure airborne sound level and frequency distribution of sound, respectively. G-R Strobotac (at lower right on seismic mass) conveniently measures fan speed without imposing drag or otherwise affecting operation.

Submarine noise must be kept to a bare minimum, as the very survival of the Silent Service depends on its ability to avoid detection. Spent air must be replaced with reconditioned air . . . but, ventilating fans make noise.

To minimize detection through radiated noises, and in particular to meet the critical requirements of the nuclear submarine, the Electric Boat Division of General Dynamics Corporation has developed an improved vaneaxial blower featuring slotted-blade airfoils that provide boundary-layer control. These blades offer distinct advantages. Losses due to turbulence and blade friction are significantly reduced, making possible smaller fan size and mass. This results in less noise and vibration. One such unit for submarine application rotates at one-half the speed of a similar-sized conventional unit, but delivers the same flow and pressure, with a substantial reduction in structure-borne vibration and in airborne noise.

General Radio sound and vibration measuring instruments were used throughout the investigations leading to the development of this fan. The equipment's ease of operation and completely self-contained, portable packaging proved particularly useful. Complete and dependable measurements could be made at each stage of development. This well integrated line of G-R instruments has long been an indispensable tool in the hands of those who work to make the Navy strong in our nation's defense.

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